रेल भर्ती बोर्ड / RAILWAY RECRUITMENT BOARDS

सी ई एन आर आर बी - ०३/२०२४ - CEN RRB - 03/2024

Test Center Name	iON Digital Zone iDZ Arunodaya Nagar
Test Date	16/12/2024
Test Time	9:00 AM - 10:30 AM
Subject	RRB JE DMS CMA CS MS

*** Note**
Correct Answer will carry 1 mark per Question.
Incorrect Answer will carry 1/3 Negative mark per Question.

1. Options shown in green color with a tick icon are correct.
2. Chosen option on the right of the question indicates the option selected by the candidate.

Section : **RRB JE, DMS, CMA, CS, MS CBT-1**

Q.1	**In a series combination of resistors, how is the voltage distributed across each resistor?**	
Ans	✗ 1. The same across all resistors	
	✗ 2. Unaffected by resistance values	
	✗ 3. Inversely proportional to resistance	
	✓ 4. Directly proportional to resistance	

Q.2	**What should come in place of the question mark (?) in the given series? 1 13 28 46 67 ?**	
Ans	✗ 1. 90	
	✗ 2. 93	
	✗ 3. 92	
	✓ 4. 91	

Q.3	**An emf is induced whenever there is a change in the magnetic field linked with electric circuits. This is stated by the:**	
Ans	✗ 1. Ohm's law	
	✗ 2. Newton's law	
	✓ 3. Faraday's law	
	✗ 4. Gravitation law	

Q.4	**The cost of a washing machine is 75% less than the cost of a TV. If the cost of the washing machine increases by 77% and that of the TV decreases by 27%, then what is the change in the total cost of 8 washing machines and 2 TVs?**	
Ans	✓ 1. Increase by 25%	
	✗ 2. Decrease by 22%	
	✗ 3. Decrease by 29%	
	✗ 4. Increase by 31%	

Q.5	A shopkeeper lists the price of a fan at 20% above its cost price and offers a 10% discount on its list price. If he earns a profit of ₹150, then what is the list price (in ₹) of the fan?
Ans	✗ 1. 1969
	✗ 2. 2054
	✗ 3. 2172
	✓ 4. 2250

Q.6	P is the sister of Q's brother R. S is the husband of Q and T is the son of S. How is P related to T?
Ans	✓ 1. Mother's sister
	✗ 2. Mother's mother
	✗ 3. Mother
	✗ 4. Sister

Q.7	Which of the following reactions does NOT represent a neutralisation reaction?
Ans	✓ 1. $Na_2CO_3 + HCl \rightarrow NaCl + CO_2 + H_2O$
	✗ 2. $CH_3COOH + NaOH \rightarrow CH_3COONa + H_2O$
	✗ 3. $H_2SO_4 + Ca(OH)_2 \rightarrow CaSO_4 + 2H_2O$
	✗ 4. $HCl + NaOH \rightarrow NaCl + H_2O$

Q.8	Who among the following is India's first civilian space tourist?
Ans	✗ 1. Prasanth Balakrishnan Nair
	✗ 2. Ajit Krishnan
	✓ 3. Gopichand Thotakura
	✗ 4. Shubhanshu Shukla

Q.9	The commutator in an electric motor is used to:
Ans	✗ 1. maintain the potential difference in the circuit
	✗ 2. maintain the magnetic field in the circuit
	✓ 3. reverse the direction of current flowing through the coil
	✗ 4. change the direction of the magnetic field

Q.10	17 men can dig a ditch 26 m long in 18 days, working 8 hours a day. How many more men should be engaged to dig a similar ditch 39 m long in 6 days, each man now working 9 hours a day?
Ans	✓ 1. 51
	✗ 2. 55
	✗ 3. 53
	✗ 4. 48

Q.11	A shopkeeper bought an article for ₹740. At what price (in ₹) should he sell the article to make 20% profit?
Ans	✗ 1. 900
	✗ 2. 876
	✗ 3. 592
	✓ 4. 888

Q.12	SKIB is related to OGNG in a certain way based on the English alphabetical order. In the same way, CUCV is related to YQHA. To which of the following options is QIRK related, following the same logic?
Ans	✗ 1. MEPW
	✗ 2. MWEP
	✓ 3. MEWP
	✗ 4. MWPE

Q.13	Find the simple interest (in closest integral ₹) on ₹4000 at 5.25% per annum rate of interest for the period from 12 February 2024 to 13 April 2024
Ans	✗ 1. 36
	✓ 2. 35
	✗ 3. 34
	✗ 4. 33

Q.14	A question is followed by two statements numbered (I) and (II). You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and select the most appropriate answer. Question: Five friends, S, T, U, V and W, are of different ages. Who is the second eldest among them? Statements: (I) W is younger than T. W is elder than U. (II) T is the eldest. Only one person is younger than V.
Ans	✓ 1. Data in statement II alone is sufficient to answer the question while data in statement I is not.
	✗ 2. Data in statement I alone is sufficient to answer the question while data in statement II is not.
	✗ 3. Data in statements I and II together are not sufficient to answer the question.
	✗ 4. Data in statements I and II together are sufficient to answer the question.

Q.15	Write the expanded form of $(8a + 3b + 9c)^2$.
Ans	✓ 1. $64a^2 + 9b^2 + 81c^2 + 48ab + 54bc + 144ac$
	✗ 2. $64a^2 + 9b^2 + 81c^2 + 48ab + 49bc + 144ac$
	✗ 3. $64a^2 + 9b^2 + 81c^2 + 48ab + 54bc + 154ac$
	✗ 4. $64a^2 + 9b^2 + 81c^2 + 52ab + 54bc + 144ac$

Q.16	Chaitanya Mahaprabhu was related to which of the following religious sects?
Ans	✓ 1. Vaishnava
	✗ 2. Shaiva
	✗ 3. Kapalika
	✗ 4. Tantra

Q.17	A number when increased by 50 %', gives 2820. The number is:
Ans	✗ 1. 940
	✗ 2. 3760
	✓ 3. 1880
	✗ 4. 5640

Black book

Q.18	Who among the following secured a gold medal for India at the Paris Paralympics 2024?
Ans	✗ 1. Nishad Kumar
	✓ 2. Avani Lekhara
	✗ 3. Mona Agarwal
	✗ 4. Preethi Pal

Q.19	What are regenerative cells used by Hydra for?
Ans	✗ 1. Hydra uses regenerative cells for reproduction by spore formation.
	✗ 2. Hydra uses regenerative cells for reproduction by fragmentation.
	✓ 3. Hydra uses regenerative cells for reproduction by budding.
	✗ 4. Hydra uses regenerative cells for reproduction by sexual reproduction.

Q.20	In a certain code language,'soldier protect country' is coded as 'lu mh na','entrepreneur prosper country' is coded as 'na ki tu' and'soldier entrepreneur vital' is coded as 'mh tu sy'.What is the possible code for 'country vital' in that language?
Ans	✓ 1. na sy
	✗ 2. mh na
	✗ 3. sy ki
	✗ 4. tu na

Q.21	Which of the following reactions represents the combustion of methane?
Ans	✓ 1. $CH_4 + O_2 \rightarrow CO_2 + 2H_2O$
	✗ 2. $CH_4 + Cl_2 \rightarrow CH_3Cl + HCl$
	✗ 3. $CH_4 + O_2 \rightarrow CO + H_2O$
	✗ 4. $CH_4 + H_2O \rightarrow CO + H_2$

Q.22	Kamal starts from Point A and drives 17 km towards south. He then takes a left turn, drives 13 km, turns left and drives 21 km. He then takes a left turn and drives 18 km. He takes a final left turn, drives 4 km and stops at Point P. How far (shortest distance) and towards which direction should he drive in order to reach Point A again? (All turns are 90° turns only unless specified.)
Ans	✓ 1. 5 km to the east
	✗ 2. 3 km to the east
	✗ 3. 6 km to the east
	✗ 4. 4 km to the east

Q.23	What should come in place of the question mark (?) in the given series based on the English alphabetical order? ONL AZX MLJ YXV ?
Ans	✗ 1. JHK
	✗ 2. JKH
	✓ 3. KJH
	✗ 4. KHJ

Q.24	**Two sets of numbers are given below. In each set of numbers, certain mathematical operation(s) on the first number result(s) in the second number. Similarly, certain mathematical operation(s) on the second number result(s) in the third number and so on. Which of the given options follows the same set of operations as in the given sets?** **(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g. 13 – Operations on 13 such as adding/subtracting/multiplying to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)** **16 – 17 – 21 – 30; 13 – 14 – 18 – 27**
Ans	✗ 1. 11 – 12 – 16 – 18
	✗ 2. 24 – 25 – 29 – 42
	✗ 3. 15 – 16 – 20 – 26
	✓ 4. 22 – 23 – 27 – 36

Q.25	**Two taps can fill a cistern in 2 hours and 54 hours respectively. A third tap can empty it in 54 hours. How long (in hours) will it take to fill the empty cistern, if all of them are opened together?**
Ans	✗ 1. 5
	✗ 2. 4
	✗ 3. 3
	✓ 4. 2

Q.26	**Write the expanded form of $(9a + 4b + 5c)^2$.**
Ans	✗ 1. $81a^2 + 16b^2 + 25c^2 + 72ab + 35bc + 90ac$
	✓ 2. $81a^2 + 16b^2 + 25c^2 + 72ab + 40bc + 90ac$
	✗ 3. $81a^2 + 16b^2 + 25c^2 + 72ab + 40bc + 100ac$
	✗ 4. $81a^2 + 16b^2 + 25c^2 + 76ab + 40bc + 90ac$

Q.27	**If a child inherits an Y chromosome from the father, what will be the sex of the child?**
Ans	✗ 1. Hermaphrodite
	✗ 2. Female
	✓ 3. Male
	✗ 4. Cannot be determined

Q.28	**Komal invested a sum of ₹5000 at 20% per annum compound interest, componded annually. If she received an amount of ₹8640 after n years, the value of n is:**
Ans	✗ 1. 4
	✗ 2. 3.5
	✓ 3. 3
	✗ 4. 2.5

Q.29	If the three angles of a quadrilateral are $70°$, $85°$ and $95°$, then find the fourth angle.
Ans	✗ 1. 105°
	✓ 2. 110°
	✗ 3. 100°
	✗ 4. 115°

Black book

Q.30	Two pieces of cloth measure 96 metres and 144 metres in length. What is the maximum length of cloth that can be cut equally from both pieces without any remainder?
Ans	✗ 1. 96 metres
	✗ 2. 24 metres
	✗ 3. 12 metres
	✓ 4. 48 metres

Q.31	Which of the following rules is used to determine the direction of the force on a current-carrying conductor in an electric motor?
Ans	✗ 1. Ampere's Law
	✗ 2. Right-Hand Thumb Rule
	✗ 3. Fleming's Right-Hand Rule
	✓ 4. Fleming's Left-Hand Rule

Q.32	Akshat completes his journey in 20 hours. He covers half the distance at 57 km/h and the rest at 95 km/h. What is the length of the journey (in Km)?
Ans	✓ 1. 1425
	✗ 2. 1416
	✗ 3. 1423
	✗ 4. 1435

Q.33	50 men can do a piece of work in 12 days. The number of men required to complete the same work in 50 days is:
Ans	✗ 1. 19
	✗ 2. 11
	✗ 3. 15
	✓ 4. 12

Q.34	Which of the following is the product of the neutralisation of hydrochloric acid (HCl) with sodium hydroxide (NaOH)?
Ans	✗ 1. Sodium chloride and hydrogen gas
	✗ 2. Sodium hydroxide and water
	✗ 3. Sodium hydroxide and hydrochloric acid
	✓ 4. Sodium chloride and water

Q.35 Match the following rivers with their tributaries.

Rivers	Tributaries
1. Brahmaputra	a. Betwa
2. Indus	b. Chenab
3. Yamuna	c. Dibang

Ans	✗ 1. 1-b, 2-c, 3-a
	✗ 2. 1-c, 2-a, 3-b
	✓ 3. 1-c, 2-b, 3-a
	✗ 4. 1-a, 2-b, 3-c

Q.36	Which of the following released the fourth edition of SDG India Index 2023-24?
Ans	✓ 1. National Institute for Transforming India
	✗ 2. National Commission for Women
	✗ 3. National Crime Record Bureau
	✗ 4. National Commission of Backward Classes

Black

Q.37	A conical tent has to accommodate 30 persons. Each person must have 5 m^2 spaces on the ground and 120 m^3 of air to breathe. Find the height (in m) of the tent.
Ans	✗ 1. 64
	✗ 2. 84
	✗ 3. 60
	✓ 4. 72

Q.38	If in a code language, If 'A' stands for '÷', 'B' stands for '×', 'C' stands for '+' and 'D' stands for '−', then the resultant of which of the following would be 55?
Ans	✗ 1. 16 B 112 C 63 A 77 D 31
	✗ 2. 16 D 112 A 63 C 77 B 31
	✗ 3. 16 C 112 D 63 A 77 B 31
	✓ 4. 16 A 112 B 63 C 77 D 31

Q.39	Which of the following is NOT an agent of dispersal of seeds?
Ans	✗ 1. Wind
	✓ 2. Sunlight
	✗ 3. Animal
	✗ 4. Water

Q.40	What is the process by which sodium hydroxide is prepared?
Ans	✗ 1. Solvay's process
	✓ 2. Chlor-alkali process
	✗ 3. Contact process
	✗ 4. Haber's process

Q.41	What is the pH range of a strongly acidic solution?
Ans	✗ 1. 12-14
	✓ 2. 0-3
	✗ 3. 7-8
	✗ 4. 10-11

Q.42	Select the option in which the triads share the same relationship as that shared by the given triads. LIFE - IFEL - FELI CALM - ALMC - LMCA
Ans	✗ 1. HUNT - HTUN - HNTU
	✓ 2. MUGS - UGSM - GSMU
	✗ 3. FLIP - LIFP - FPLI
	✗ 4. LAST - TLAS - STLA

Q.43	Radhika travels a distance of 230 km with speed of 46 km/h and 400 km with 100 km/h by her car. Find the average speed (in km/h) of Radhika.
Ans	✗ 1. 72
	✗ 2. 80
	✓ 3. 70
	✗ 4. 75

Black book

Q.44	**Refer to the following number and symbol series and answer the question that follows. (Counting to be done from left to right only.)** **(Left) @ 2 # 2 4 3 = % 8 * 1 8 @ $ 4 ! 6 4 3 * 8 = (Right)** **How many such numbers are there, each of which is immediately preceded by and also immediately followed by a symbol?**
Ans	✗ 1. One
	✓ 2. Four
	✗ 3. Three
	✗ 4. Five

Q.45	**What should come in place of the question mark (?) in the given series?** **17 22 37 62 97 ?**
Ans	✗ 1. 137
	✗ 2. 140
	✓ 3. 142
	✗ 4. 148

Q.46	**Based on the English alphabetical order, three of the following four are alike in a certain way and thus form a group. Which is the one that DOES NOT belong to that group? (Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)**
Ans	✓ 1. FHD
	✗ 2. ZWX
	✗ 3. VST
	✗ 4. NKL

Q.47	**Which of the following statements accurately describes the role of moral suasion in controlling money?**
Ans	✓ 1. It is a combination of persuasion and pressure used by the RBI to influence banks' lending behaviour.
	✗ 2. It refers to the variation in the statutory liquidity ratio to regulate the allocation of bank credit.
	✗ 3. It is a direct tool used by the RBI to control the money supply by setting interest rates.
	✗ 4. It involves the sale and purchase of government securities to influence the money supply.

Q.48	**What determines the sex of a child in humans?**
Ans	✓ 1. Genetic constitution
	✗ 2. Environmental cues
	✗ 3. The temperature at which fertilised eggs are placed
	✗ 4. The fate of the embryo

Q.49	**Which of the following is a natural ecosystem?**
Ans	✗ 1. Crop field
	✗ 2. Aquarium
	✗ 3. Garden
	✓ 4. Forest

Pacific book

Q.50	The magnetic field inside a long, straight solenoid carrying current is _____.
Ans	✗ 1. zero
	✓ 2. uniform and parallel to the axis of the solenoid
	✗ 3. inversely proportional to the current
	✗ 4. stronger near the edges

Q.51	On oxidation, silver changes its colour to _____ and copper changes its colour to _____.
Ans	✗ 1. grey; green
	✓ 2. black; green
	✗ 3. black; blue
	✗ 4. grey; blue

Q.52	Which of the following articles deals with the Finance Commission that distributes taxes between the Centre and State?
Ans	✓ 1. Article 280
	✗ 2. Article 282
	✗ 3. Article 283
	✗ 4. Article 281

Q.53	The dark blue colour in the pH scale refers to _____.
Ans	✗ 1. neutral solution
	✗ 2. strong acidic solution
	✗ 3. strong basic solution
	✓ 4. weak basic solution

Q.54	$(1 + \sin A)(1 - \sin A)(1 + \tan^2 A)$ is equal to:
Ans	✗ 1. cosA
	✗ 2. 0
	✓ 3. 1
	✗ 4. tanA

Q.55	Find the value of $K^2 - 3K$, for which the number 58K764 is divisible by 11.
Ans	✗ 1. 60
	✗ 2. 52
	✓ 3. 40
	✗ 4. 48

Q.56	What is the average of all the natural numbers from 1 to 91?
Ans	✗ 1. 46.5
	✗ 2. 45.5
	✗ 3. 47
	✓ 4. 46

Q.57	Who is the author of 'The Great Indian Novel,' published in 2011?
Ans	✗ 1. Kiran Nagarkar
	✓ 2. Shashi Tharoor
	✗ 3. Vikram Seth
	✗ 4. Arundhati Roy

Q.58	If third proportional of 12 and 24 be x, then what is the value of x?
Ans	✗ 1. 50
	✓ 2. 48
	✗ 3. 45
	✗ 4. 49

Q.59	Which of the following committees suggested that the 'duty to pay taxes' should also be a Fundamental Duty of the Indian citizen?
Ans	✗ 1. Sarkaria Commission
	✗ 2. Justice JS Verma Committee
	✓ 3. Swaran Singh Committee
	✗ 4. Santhanam Committee

Q.60	Evaluate: 16 + 16 ÷ 4 - 3 × 3
Ans	✗ 1. 13
	✓ 2. 11
	✗ 3. 14
	✗ 4. 10

Q.61	What property of carbon allows it to form long chains and rings?
Ans	✗ 1. Ability to form stable bonds with other elements
	✗ 2. Tendency to form single bonds
	✓ 3. Ability to form multiple bonds
	✗ 4. Ability to form covalent bonds

Q.62	The power in a circuit having voltage V and current I during time interval t is:
Ans	✗ 1. I/V
	✗ 2. (I × t)/V
	✓ 3. I × V
	✗ 4. V/I

Q.63	Which of the following materials is likely to be non-biodegradable?
Ans	✗ 1. Wood
	✗ 2. Vegetable peels
	✓ 3. Plastic
	✗ 4. Paper

Black

Q.64	In a parallel circuit, how does the voltage across each resistor compare to the total voltage supplied by the battery?
Ans	✗ 1. It is divided according to the resistance values.
	✗ 2. It is zero.
	✗ 3. It is inversely proportional to the resistance.
	✓ 4. It is the same for each resistor.

Q.65	What is the relationship between current (I), power (P), and voltage (V)?
Ans	✗ 1. I = PV
	✗ 2. I = P2V
	✗ 3. I = V ÷ P
	✓ 4. I = P ÷ V

Q.66	Which of the following is an effective method to reduce plastic waste?
Ans	✗ 1. Using disposable plastic bags
	✗ 2. Burning plastic waste
	✗ 3. Dumping plastic waste in landfills
	✓ 4. Recycling and reusing plastic materials

Q.67	The marks scored by 10 students are given below. 17, 16, 12, 16, 15, 16, 13, 14, 13, 20 The mode of the data is:
Ans	✗ 1. 12
	✓ 2. 16
	✗ 3. 18
	✗ 4. 17

Q.68	What is the average of all the natural numbers from 1 to 92?
Ans	✗ 1. 46
	✓ 2. 46.5
	✗ 3. 47
	✗ 4. 47.5

Q.69	Which of the following is a method of reproduction in plants, where only a single parent is involved?
Ans	✗ 1. Sexual reproduction
	✓ 2. Asexual reproduction
	✗ 3. Fertilisation
	✗ 4. Pollination

Q.70	If ‘A’ stands for ‘÷’, ‘B’ stands for ‘×’, ‘C’ stands for ‘+’ and ‘D’ stands for ‘–’, what will come in place of the question mark (?) in the following equation? 93 D 7 B 5 C (69 A 3) C 26 = ?
Ans	✗ 1. 75
	✗ 2. 122
	✗ 3. 93
	✓ 4. 107

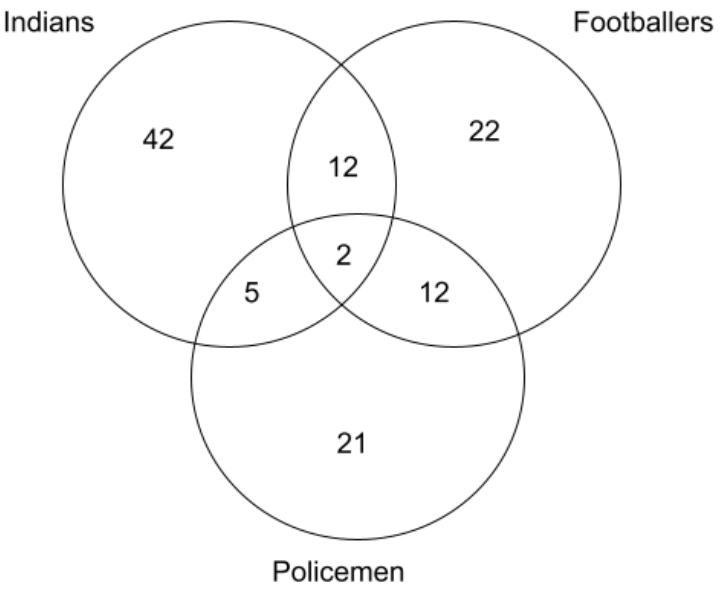
Black

Q.71	B, C, D, F and H have different marks. Only one person has scored between C and D. Only one person has scored between H and D. F has scored less than C and D. How many people have scored less than B?
Ans	✔ 1. Three
	✘ 2. Two
	✘ 3. One
	✘ 4. Four

Q.72	Based on the English alphabetical order, three of the following four letter-clusters are alike in a certain way and thus form a group. Which letter-cluster DOES NOT belong to that group? (Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)
Ans	✔ 1. RUAF
	✘ 2. HKQU
	✘ 3. TWCG
	✘ 4. CFLP

Q.73	The length of each of the two equal sides of an isosceles triangle is 100 cm each and the length of its base is 56 cm. The area (in cm^2) of the triangle is:
Ans	✘ 1. 2672
	✘ 2. 2690
	✔ 3. 2688
	✘ 4. 2675

Q.74	Hritik ranked 20^{th} from the bottom and 30^{th} from the top in his class. How many students are there in his class?
Ans	✘ 1. 45
	✘ 2. 34
	✘ 3. 47
	✔ 4. 49

Q.75	Study the given diagram carefully and answer the question that follows. The numbers in different sections indicate the number of persons.  How many such policemen exist that are also Indians and footballers?
Ans	✗ 1. 5
	✓ 2. 2
	✗ 3. 12
	✗ 4. 3

Q.76	What is the power rating of a device that draws 1.75 A of current when connected to a 180-V source?
Ans	✗ 1. 440 W
	✓ 2. 315 W
	✗ 3. 225 W
	✗ 4. 105 W

Q.77	Which of the following articles deal with the provisions regarding the election, qualification, and removal of the Vice-President of India?
Ans	✗ 1. Article 224 - 245
	✗ 2. Article 68 - 75
	✗ 3. Article 78 - 80
	✓ 4. Article 63 - 71

Q.78	Find the median of the data given below. **180, 90, 134, 68, 52, 152, 88, 110**
Ans	✗ 1. 89
	✗ 2. 60
	✗ 3. 110
	✓ 4. 100

Blackbook

Q.79	As of 30 September 2024, how many Jan Aushadhi Kendras have been established by the Government of India across the country?
Ans	✗ 1. 12,822
	✓ 2. 13,822
	✗ 3. 14,822
	✗ 4. 11,822

Q.80	Which of the following letter-clusters should replace # and % so that the pattern and relationship followed between the letter-cluster pair on the left side of :: is the same as that on the right side of ::? # : OKR :: XTA : %
Ans	✗ 1. # = KGN, % = FXE
	✗ 2. # = KLN, % = BXE
	✗ 3. # = KGN, % = BXP
	✓ 4. # = KGN, % = BXE

Q.81	Refer to the given number, symbol series and answer the question that follows. Counting to be done from left to right only. (Left) $ 7 @ 6 = & 5 Ω 4 > # 8 & % 9 1 * £ 3 (Right) How many such symbols are there each of which is immediately preceded by a number and also immediately followed by another number?
Ans	✗ 1. One
	✓ 2. Two
	✗ 3. Three
	✗ 4. Four

Q.82	Washing soda ($Na_2CO_3 \cdot 10H_2O$) is obtained from which compound in the Solvay process?
Ans	✗ 1. Sodium chloride
	✓ 2. Sodium bicarbonate
	✗ 3. Sodium hydroxide
	✗ 4. Sodium sulphate

Q.83	Where is the Taj Mahotsav held?
Ans	✗ 1. Near the Western gate of Taj Mahal
	✓ 2. Near the Eastern gate of Taj Mahal
	✗ 3. In Fatehpur Sikri
	✗ 4. In Agra Fort

Q.84	Select the term from among the given options that can replace the question mark (?) in the following series. OJH 20, MHF 25, KFD 35, IDB 55, GBZ 95, ?
Ans	✗ 1. EXS 175
	✓ 2. EZX 175
	✗ 3. YXS 175
	✗ 4. EXO 175

Q.85	Self pollination is possible only in:
Ans	✗ 1. unisexual flowers with stamen maturing first
	✓ 2. bisexual flowers with both stamens and pistil maturing at the same time
	✗ 3. bisexual flowers with both stamens and pistil maturing at the different time
	✗ 4. unisexual flowers with pistil maturing first

Q.86	There are total 120 students in three sections A, B and C of Class 10. The average marks of the three sections is 85. The average marks of section B and C is 88 and the average marks of section A is 78. Find the number of students in section A.
Ans	✗ 1. 33
	✗ 2. 24
	✗ 3. 28
	✓ 4. 36

Q.87	A man sold an article for ₹346 by first giving a d% discount on its marked price, and then another discount having the same nominal value (in ₹). If the marked price of the article is ₹1730, then what is the value of d?
Ans	✓ 1. 40
	✗ 2. 43
	✗ 3. 38
	✗ 4. 44

Q.88	Seven boxes, D, E, F, R, S, T and U, are kept one over the other but not necessarily in the same order. U is kept immediately above T. E is kept immediately above D. Only F is kept above S. Only two boxes are kept above U. E is not kept at third position from the bottom. How many boxes are kept between R and F?
Ans	✓ 1. Three
	✗ 2. Four
	✗ 3. Two
	✗ 4. One

Q.89	The first session of Indian National Congress took place at which of the following places?
Ans	✗ 1. Lahore
	✓ 2. Bombay
	✗ 3. Calcutta
	✗ 4. Allahabad

Q.90	In a certain code language, 'house fire gas' is coded as 'dy ph mt', 'pressure gas station' is coded as 'lp ph st', 'station house farm' is coded as 'st bq dy'. What is the code for 'gas' in that language? (Note: All the codes are two-letter coded only.)
Ans	✗ 1. lp
	✗ 2. st
	✓ 3. ph
	✗ 4. mt

Black book

Q.91	Every year, Foreign Trade Policy has been declared by which ministry of the Government of India?
Ans	✗ 1. Ministry of Information
	✗ 2. Ministry of Home Affairs
	✗ 3. Ministry of External Affairs
	✓ 4. Ministry of Commerce and Industry

Q.92	Which of the following countries hosted the first business summit of the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) in 2024?
Ans	✗ 1. Dhaka, Bangladesh
	✗ 2. Thimphu, Bhutan
	✓ 3. New Delhi, India
	✗ 4. Kathmandu, Nepal

Q.93	Six students are sitting around a circular table facing the centre. L is an immediate neighbour of both J and H. I is sitting second to the left of J. K is sitting third to the right of H. G is an immediate neighbour of both I and H. The position of how many persons will remain unchanged if all persons are arranged in English alphabetical order in clockwise direction, starting from G (including G)?
Ans	✗ 1. One
	✗ 2. Two
	✗ 3. Three
	✓ 4. Four

Q.94	Write the expanded form of $(4a + 9b + 5c)^2$.
Ans	✗ 1. $16a^2 + 81b^2 + 25c^2 + 72ab + 90bc + 50ac$
	✗ 2. $16a^2 + 81b^2 + 25c^2 + 76ab + 90bc + 40ac$
	✗ 3. $16a^2 + 81b^2 + 25c^2 + 72ab + 85bc + 40ac$
	✓ 4. $16a^2 + 81b^2 + 25c^2 + 72ab + 90bc + 40ac$

Q.95	What is the primary purpose of an electric fuse in a household circuit?
Ans	✓ 1. To prevent overloading and short circuits
	✗ 2. To increase current flow
	✗ 3. To regulate voltage supply
	✗ 4. To reduce resistance in the circuit

Q.96	Why is bleaching powder used for disinfecting drinking water?
Ans	✓ 1. It releases chlorine, which kills germs.
	✗ 2. It neutralises the water.
	✗ 3. It reduces the hardness of water.
	✗ 4. It provides an acidic medium.

Q.97	Which of the following is a viral infection that can be transmitted through sexual contact?
Ans	✗ 1. Tuberculosis
	✗ 2. Gonorrhoea
	✗ 3. Syphilis
	✓ 4. HIV-AIDS

Black

Q.98	The area of a square plot is 289 m^2 . The length of each side of the plot (in m) is:
Ans	✗ 1. 11
	✓ 2. 17
	✗ 3. 7
	✗ 4. 27

Q.99	An electric pole casts a shadow of length 42 m at a time when a tree 12 m high casts a shadow of length 16 m. Find the height of the pole.
Ans	✗ 1. 29 m
	✗ 2. 30.5 m
	✗ 3. 33 m
	✓ 4. 31.5 m

Q.100	In the following number-pairs, the second number is obtained by applying certain mathematical operations to the first number. Select the set in which the numbers are related in the same way as are the numbers of the following sets. (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 – Operations on 13 such as adding / subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.) 37.4, 34.6 45, 42.2
Ans	✗ 1. 32.9, 29.1
	✓ 2. 69, 66.2
	✗ 3. 21.5, 17.7
	✗ 4. 58, 56.2

2024/12/20-10:17:31

Black

रेल भर्ती बोर्ड / RAILWAY RECRUITMENT BOARDS

सी ई एन आर आर बी - ०३/२०२४ - CEN RRB - 03/2024

Test Center Name	Xeon Technologies
Test Date	16/12/2024
Test Time	12:45 PM - 2:15 PM
Subject	RRB JE DMS CMA CS MS

*** Note**
Correct Answer will carry 1 mark per Question.
Incorrect Answer will carry 1/3 Negative mark per Question.

1. Options shown in green color with a tick icon are correct.
2. Chosen option on the right of the question indicates the option selected by the candidate.

Section : **RRB JE, DMS, CMA, CS, MS CBT-1**

Q.1	**Which of the following states is also known as the 'Molassis basin', which is made up of soft unconsolidated deposits?**
Ans	✗ 1. Tripura
	✗ 2. Assam
	✓ 3. Mizoram
	✗ 4. Meghalaya

Q.2	**If a 1352 m long train crosses a pole in 169 seconds, then find the time (in seconds) taken by the train to cross a 256 m long platform.**
Ans	✗ 1. 195
	✓ 2. 201
	✗ 3. 193
	✗ 4. 205

Q.3	**Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusion(s) logically follow(s) from the statements.** **Statements:** **All ovals are bins. No bin is a car. No bin is a plum.** **Conclusions:** **(I): No oval is a car.** **(II): Some plums are cars.**
Ans	✗ 1. Both conclusions (I) and (II) follow.
	✓ 2. Only conclusion (I) follows.
	✗ 3. Only conclusion (II) follows.
	✗ 4. Neither conclusion (I) nor (II) follows.

Q.4	What should come in place of the question mark (?) in the given series based on the English alphabetical order? VCF PWZ JQT DKN ?
Ans	✗ 1. EHX
	✓ 2. XEH
	✗ 3. XHE
	✗ 4. EXH

Q.5	What was the venue of the 23rd meeting of the Shanghai Cooperation Organisation (SCO) in 2024?
Ans	✓ 1. Islamabad, Pakistan
	✗ 2. Dhaka, Bangladesh
	✗ 3. Sanghai, China
	✗ 4. New Delhi, India

Q.6	Select the letter-cluster from among the given options that can replace the question mark (?) in the following series. OHA MFY KDW IBU ?
Ans	✓ 1. GZS
	✗ 2. GSZ
	✗ 3. SGZ
	✗ 4. SZG

Q.7	A man sold an article for ₹390 by first giving a d% discount on its marked price, and then another discount having the same nominal value (in ₹). If the marked price of the article is ₹3900, then what is the value of d?
Ans	✗ 1. 48
	✓ 2. 45
	✗ 3. 50
	✗ 4. 41

Q.8	An electric motor converts electrical energy into:
Ans	✗ 1. electron energy
	✗ 2. magnetic energy
	✓ 3. mechanical energy
	✗ 4. nuclear energy

Q.9	What is the average of all the natural numbers from 1 to 87?
Ans	✗ 1. 44.5
	✗ 2. 43.5
	✗ 3. 45
	✓ 4. 44

Q.10	Pratap starts from Point A and drives 16 km towards south. He then takes a right turn, drives 13 km, turns right and drives 18 km. He then takes a right turn and drives 18 km. He takes a final right turn, drives 2 km and stops at Point P. How far (shortest distance) and towards which direction should he drive in order to reach Point A again? (All turns are 90° turns only unless specified.)
Ans	✗ 1. 6 km to the west
	✗ 2. 3 km to the west
	✗ 3. 7 km to the west
	✓ 4. 5 km to the west

Black book

Q.11	If 'A' stands for '÷', 'B' stands for '×', 'C' stands for '+' and 'D' stands for '−', then what will be come in place of the question mark (?) in the following equation? 13 D 32 C 36 B 49 A 49 = ?
Ans	✗ 1. 19
	✗ 2. 15
	✗ 3. 18
	✓ 4. 17

Q.12	Express the value of $35.63 - 47.058 + 10.36 - 24.28 + 5.316 \times 5$ as
Ans	✓ 1. $1\frac{29}{125}$
	✗ 2. $2\frac{13}{58}$
	✗ 3. $1\frac{31}{48}$
	✗ 4. $1\frac{21}{47}$

Q.13	Refer to the given number, symbol series and answer the question that follows. Counting to be done from left to right only. (Left) 7 5 ^ 5 + % 5 6 $ 2 3 * 6 + 3 & 4 ? $ # 6 1 2 3 & 6 3 % @ (Right) How many such symbols are there each of which is immediately preceded by a number and immediately followed by another symbol?
Ans	✗ 1. 4
	✗ 2. 1
	✓ 3. 3
	✗ 4. 2

Q.14	Two numbers are in the ratio 7 : 5. If the first number is increased by 14 and the second number is decreased by 5, then the ratio becomes 4 : 2. What is the sum of the original two numbers?
Ans	✗ 1. 106
	✓ 2. 96
	✗ 3. 115
	✗ 4. 111

Q.15	Why is the depletion of the ozone layer a concern for humans?
Ans	✗ 1. It promotes plant growth.
	✗ 2. It leads to increased water pollution.
	✓ 3. It protects us from harmful radiation.
	✗ 4. It increases soil fertility.

Q.16	Which of the following categories are NOT a class of consumers?
Ans	✗ 1. Carnivores
	✗ 2. Herbivores
	✗ 3. Parasites
	✓ 4. Producers

Black book

Q.17	What will come in the place of the question mark (?) in the following equation if '÷' and '−' are interchanged and '+' and '×' are interchanged? 10 + 52 − 13 × 4 ÷ 18 = ?
Ans	✗ 1. 19
	✓ 2. 26
	✗ 3. 22
	✗ 4. 24

Q.18	In May 2024, the Indian Air Force successfully tested its Arogya Maitri Disaster Management Cube in _____.
Ans	✗ 1. Pokhran
	✓ 2. Agra
	✗ 3. Bhuj
	✗ 4. Mysuru

Q.19	Consider a conductor in the plane of the paper with current going from bottom to the top. What will be the direction of the magnetic field lines to the left of the conductor?
Ans	✗ 1. Perpendicular to the plane of the paper and going in.
	✗ 2. Opposite to the direction of the current.
	✗ 3. In the direction of the current.
	✓ 4. Perpendicular to the plane of the paper and coming out.

Q.20	If the interest earned during the 2nd year on a certain sum is ₹9911, and the rate of interest is 10% per annum compounded annually, then the sum is:
Ans	✓ 1. ₹90100
	✗ 2. ₹90055
	✗ 3. ₹90115
	✗ 4. ₹90080

Q.21	What is the name of the Lunar Polar Exploration Mission, a collaboration with Japan's JAXA which was approved by India's National Space Commission in October 2024?
Ans	✓ 1. Lupex
	✗ 2. Mopex
	✗ 3. SpaceX
	✗ 4. Moonet

Q.22	A and B complete a work in 17 days. If A alone can do it in 34 days then, B alone can do in_____(days).
Ans	✓ 1. 34
	✗ 2. 35
	✗ 3. 36
	✗ 4. 33

Q.23	A shopkeeper bought an article for ₹760. At what price (in ₹) should he sell the article to make 30% profit?
Ans	✓ 1. 988
	✗ 2. 532
	✗ 3. 976
	✗ 4. 1000

Black book

Q.24	**Which of the following Constitution Amendments empowers Parliament to establish common High court for two or more than two States?**
Ans	✗ 1. 6th Constitutional Amendment Act
	✗ 2. 8th Constitutional Amendment Act
	✓ 3. 7th Constitutional Amendment Act
	✗ 4. 9th Constitutional Amendment Act

Q.25	**Who is the author of 'Fiction as History: The Novel and the City in Modern North India,' published in 2019?**
Ans	✓ 1. Vasudha Dalmia
	✗ 2. Arundhati Roy
	✗ 3. Salman Rushdie
	✗ 4. Jhumpa Lahiri

Q.26 Match the Following:

Column A	Column B
1. Marginal Efficiency of Capital	A. Spending on consumer goods
2. Autonomous Investment	B. Tendency for employment to fluctuate
3. Consumption Function	C. Expected rate of return on investment
4. Paradox of Thrift	D. Investment independent of income
5. Cyclical Unemployment	E. Increased saving reduces total demand

Ans	✗ 1. 1 - E, 2 - D, 3 - A, 4 - C, 5 - B
	✗ 2. 1 - B, 2 - D, 3 - A, 4 - E, 5 - C
	✓ 3. 1 - C, 2 - D, 3 - A, 4 - E, 5 - B
	✗ 4. 1 - A, 2 - D, 3 - C, 4 - E, 5 - B

Q.27	**Aman completes his journey in 14 hours. He covers half the distance at 39 km/h and the rest at 45 km/h. What is the length of the journey (in Km)?**
Ans	✗ 1. 592
	✓ 2. 585
	✗ 3. 594
	✗ 4. 591

Q.28	**Why do non-biodegradable wastes cause environmental problems?**
Ans	✗ 1. They are toxic to plants only.
	✓ 2. They remain in the environment for a long time.
	✗ 3. They increase soil fertility.
	✗ 4. They can be easily recycled.

Q.29	**A number when increased by 50 %', gives 3030. The number is:**
Ans	✗ 1. 1010
	✗ 2. 4040
	✗ 3. 6060
	✓ 4. 2020

Black

Q.30	Which ion reduces at the cathode during electrolysis of fresh brine solution?
Ans	✗ 1. Na^+
	✗ 2. OH^-
	✓ 3. H^+
	✗ 4. Cl^-

Q.31	Which metal is placed at the top of the reactivity series?
Ans	✗ 1. Copper
	✗ 2. Iron
	✗ 3. Silver
	✓ 4. Potassium

Q.32	A question is given, followed by two statements labelled I and II. Identify which of the statements is/are sufficient to answer the question. A, B, C, D and E are sitting in a straight line facing north. Who sits on the extreme left end? (I) Exactly 2 people sit between A and E. (II) Exactly 2 people sit between B and C.
Ans	✗ 1. Both Statements I and II put together (and not independently) are sufficient to answer the question.
	✗ 2. Data in Statement I alone is sufficient to answer the question, while data in Statement II alone is not.
	✓ 3. Both Statements I and II put together are not sufficient to answer the question.
	✗ 4. Data in Statement II alone is sufficient to answer the question, while data in Statement I alone is not.

Q.33	Find the simple interest (in closest integral ₹) on ₹3000 at 8% per annum rate of interest for the period from 22 February 2024 to 23 April 2024
Ans	✗ 1. 38
	✓ 2. 40
	✗ 3. 39
	✗ 4. 41

Q.34	PN is a secant intersecting a circle at points M and N such that PN > PM. A tangent PT is drawn to the circle touching it at T. If PM = 32 cm and PT = 40 cm, what is the length (in cm) of the chord MN?
Ans	✗ 1. 20
	✗ 2. 36
	✗ 3. 50
	✓ 4. 18

Q.35	L is brother of K. Q is married to N. Z is mother of L. N is daughter of Z. P is wife of K. How is Q related to K?
Ans	✓ 1. Sister's husband
	✗ 2. Mother's father
	✗ 3. Father's brother
	✗ 4. Brother

Black

Q.36	The Khilafat committee was formed in Bombay, to defend temporal powers of Khalifa, in _____.
Ans	✗ 1. July 1919
	✗ 2. June 1919
	✓ 3. March 1919
	✗ 4. January 1919

Q.37	Among five people named A, B, C, D and E, each has a certain age. D is four times the age of C. A is two times the age of C. D is five times the age of B. The age of B is 12. If E is thrice the age of A, what is the age of E?
Ans	✓ 1. 90
	✗ 2. 92
	✗ 3. 88
	✗ 4. 94

Q.38	According to the Annual Report 2019-20 of the Ministry of Textiles, India's textile industry contributes what percentage to the industry output, in value terms?
Ans	✓ 1. 7%
	✗ 2. 6%
	✗ 3. 15%
	✗ 4. 18%

Q.39	Which of the following best describes why ionic compounds like potassium bromide (KBr) do NOT conduct electricity in solid form but do in molten form?
Ans	✗ 1. Solid KBr consists of neutral atoms with no free electrons.
	✗ 2. Solid KBr has weak ions that do not conduct electricity.
	✓ 3. Ionic bonds prevent ion movement in solid KBr.
	✗ 4. In molten form, KBr decomposes into gaseous atoms.

Q.40	Refer to the following number and symbol series and answer the question that follows. Counting to be done from left to right only. (Left) 6 $ < 8 1 ^ 3 * 2 @ 7 # 4 & 5 % @ 9 (Right) If all the symbols are dropped from the series, which of the following will be fifth from right?
Ans	✓ 1. 2
	✗ 2. 7
	✗ 3. 4
	✗ 4. 5

Q.41	Ravi has purchased an aquarium and was surprised to know that regular cleaning of aquariums is essential. Why does it have to be regularly cleaned?
Ans	✗ 1. Dead fish and plants may spoil the electric supply of the aquarium.
	✗ 2. Dead fish and plants are decomposed by microorganisms and smell bad.
	✗ 3. Dead fish and plants may spoil the aeration system of the aquarium.
	✓ 4. Dead fish and plants should be disposed of in the soil, not in water.

Q.42	**Garden is an ecosystem because:**
Ans	✗ 1. it has both plants, trees and animals like insects, frogs, birds, etc., as biotic components
	✗ 2. the living organisms in it interact with each other and are not affected by abiotic components
	✓ 3. the living organisms in it interact with each other and are affected by abiotic components
	✗ 4. it has only biotic components like plants, trees and flowers

Q.43	**44 men can do a piece of work in 48 days. The number of men required to complete the same work in 8 days is:**
Ans	✓ 1. 264
	✗ 2. 260
	✗ 3. 266
	✗ 4. 261

Q.44	**In which of the following cases did the Supreme Court mention that the Fundamental Right to Primary Education is the Right to Life under Article 21 of the Indian Constitution?**
Ans	✗ 1. P Sambamurthy vs Union of India
	✗ 2. Navtej Singh Johar vs Union of India
	✓ 3. Unni Krishnan vs State of Andhra Pradesh
	✗ 4. Shreya Singhal vs Union of India

Q.45	**The marks scored by 10 students are given below.** **14, 15, 16, 17, 10, 17, 19, 13, 14, 14** **The mode of the data is:**
Ans	✗ 1. 17
	✗ 2. 15
	✓ 3. 14
	✗ 4. 16

Q.46	If the radius of a hemisphere is increased by 50%, then find the perce
Ans	✗ 1. 137.5%
	✓ 2. 125%
	✗ 3. 150%
	✗ 4. 112.5%

Q.47	If the mean of the following data is 37, then the value of X is:
Ans	✗ 1. 106
	✗ 2. 107
	✓ 3. 124
	✗ 4. 125

xi	20	30	40	85
fi	19	X	13	24

Black

Q.48	What industrial method is most typically used to produce sodium hydroxide (NaOH)?
Ans	✔ 1. Electrolysis of brine
	✘ 2. Castner-Kellner process
	✘ 3. Contact process
	✘ 4. Haber process

Q.49	In a certain code language, 'PLOT' is coded as '9137' and 'LIFE' is coded as '4872'. What is the code for 'L' in the given code language?
Ans	✔ 1. 7
	✘ 2. 1
	✘ 3. 4
	✘ 4. 3

Q.50	If 214 apples were distributed among Ajay, Amit, and Amar in the rat
Ans	✘ 1. 40
	✔ 2. 70
	✘ 3. 100
	✘ 4. 80

Q.51	Write the expanded form of $(6a + 5b + 8c)^2$.
Ans	✘ 1. $36a^2 + 25b^2 + 64c^2 + 64ab + 80bc + 96ac$
	✘ 2. $36a^2 + 25b^2 + 64c^2 + 60ab + 80bc + 106ac$
	✔ 3. $36a^2 + 25b^2 + 64c^2 + 60ab + 80bc + 96ac$
	✘ 4. $36a^2 + 25b^2 + 64c^2 + 60ab + 75bc + 96ac$

Q.52	Sangeeta and Hemlata invest in a business in the ratio 1 : 3. If total profit is Rs. 2568, then what is difference between the profit (in Rs.) of Sangeeta and Hemlata?
Ans	✘ 1. 1184
	✘ 2. 1334
	✔ 3. 1284
	✘ 4. 1384

Q.53	Select the letter-cluster pair that best represents a similar relationship to the one expressed in the pairs of letter-clusters given below. OQP : PTO VWV : WZU
Ans	✔ 1. HFN : IIM
	✘ 2. NEO : OHL
	✘ 3. KND : LQF
	✘ 4. QEK : RHI

black

Q.54	**Which of the following letter-clusters should replace # and % so that the pattern and relationship followed between the letter-cluster pair on the left side of :: is the same as that on the right side of ::?** **# : DHJ :: BFH : %**
Ans	✔ 1. # = JNP, % = VZB
	✘ 2. # = JNP, % = WZB
	✘ 3. # = KNP, % = VZB
	✘ 4. # = JNP, % = VZO

Q.55	**Manyakheta was the capital of which of following dynasties during the eighth century AD?**
Ans	✔ 1. Rashtrakuta
	✘ 2. Pratiharas
	✘ 3. Chera
	✘ 4. Pala

Q.56	**Which of the following options represents the correct Lewis structure for methane (CH_4)?**
Ans	✘ 1. A carbon atom bonded to two hydrogen atoms with double bonds
	✔ 2. A carbon atom bonded to four hydrogen atoms with single bonds
	✘ 3. A carbon atom bonded to one hydrogen atom with a double bond
	✘ 4. A carbon atom bonded to four hydrogen atoms with triple bonds

Q.57	**Write the expanded form of $(5a + 7b + 3c)^2$.**
Ans	✔ 1. $25a^2 + 49b^2 + 9c^2 + 70ab + 42bc + 30ac$
	✘ 2. $25a^2 + 49b^2 + 9c^2 + 74ab + 42bc + 30ac$
	✘ 3. $25a^2 + 49b^2 + 9c^2 + 70ab + 37bc + 30ac$
	✘ 4. $25a^2 + 49b^2 + 9c^2 + 70ab + 42bc + 40ac$

Q.58	**Based on the English alphabetical order, three of the following four letter-clusters are alike in a certain way and thus form a group. Which letter-cluster DOES NOT belong to that group? (Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)**
Ans	✘ 1. CJSX
	✘ 2. BIRW
	✔ 3. JQZF
	✘ 4. UBKP

Q.59	**What impact does human activities have on the environment?**
Ans	✘ 1. They help in waste disposal
	✘ 2. Only a positive impact
	✔ 3. They contribute to environmental pollution
	✘ 4. No impact

Q.60	Select the letter-cluster pair that best represents a similar relationship to the one expressed in the pairs of letter-clusters given below. NGJ : OJE MHK : NKF
Ans	✗ 1. XHJ : YKF
	✓ 2. KNI : LQD
	✗ 3. JJK : KME
	✗ 4. LMO : MOJ

Q.61	If a conductor follows the Ohm's law, then the graph between current and voltage will be a/an _____.
Ans	✗ 1. ellipse
	✗ 2. hyperbola
	✗ 3. parabola
	✓ 4. straight line

Q.62	How many seats did the Bhartiya Janata Party win in the Jammu & Kashmir assembly elections held in 2024?
Ans	✗ 1. 39
	✗ 2. 19
	✓ 3. 29
	✗ 4. 49

Q.63	What should come in place of the question mark (?) in the given series? 18 49 18 45 18 41 18 ?
Ans	✗ 1. 31
	✗ 2. 34
	✓ 3. 37
	✗ 4. 29

Q.64	A wire has a resistance of R. If its length is increased by a factor of 8 and its cross-sectional area is decreased by a factor of 4, what is its new resistance (R')?
Ans	✗ 1. R' = 2 R
	✗ 2. R' = 8 R
	✓ 3. R' = 32 R
	✗ 4. R' = 16 R

Q.65	What should come in place of the question mark (?) in the given series? 180 131 90 57 32 ?
Ans	✗ 1. 22
	✗ 2. 20
	✗ 3. 17
	✓ 4. 15

Q.66	What is formed when ammonium dichromate is heated?
Ans	✗ 1. Chromium oxide and water
	✗ 2. Chromium and oxygen
	✗ 3. Chromium oxide and nitrogen
	✓ 4. Nitrogen, oxygen and chromium oxide

Black book

Q.67	The cost of a washing machine is 40% less than the cost of a TV. If the cost of the washing machine increases by 64% and that of the TV decreases by 20%, then what is the change in the total cost of 5 washing machines and 7 TVs?
Ans	✗ 1. Decrease by 5%
	✗ 2. Increase by 13%
	✗ 3. Decrease by 4%
	✓ 4. Increase by 5.2%

Q.68	Combination reaction can be represented as:
Ans	✓ 1. AB + C → ABC
	✗ 2. ABC → AB + C
	✗ 3. AB + CD → AD + CD
	✗ 4. AB + C → CB + A

Q.69	A, B, C, D, E and F live on six different floors of the same building. The lowermost floor in the building is numbered 1, the floor above it, number 2 and so on till the topmost floor is numbered 6. E lives on an even numbered floor but not 6. The sum of floors on which A and E live is 7. F lives immediately above B. The sum of floors on which E and D live is 3. How many people live between A and D?
Ans	✗ 1. 1
	✗ 2. 2
	✓ 3. 3
	✗ 4. 4

Q.70	Rashi wants to make compost for her kitchen garden. She plans to use kitchen wastes. Which set of articles is best suited for her work?
Ans	✗ 1. Peels of fruits, leftover vegetables, paper, packing sheets.
	✗ 2. Peels of fruits, leftover vegetables, plastic waste, old mobile phone.
	✓ 3. Peels of fruits, leftover vegetables, paper, torn cotton clothes.
	✗ 4. Peels of fruits, leftover vegetables, plastic waste, thermocol cups.

Q.71	The average price of three items of furniture is Rs 16845. If their prices are in the ratio 3:5:7, the price of the cheapest item (in Rs) is
Ans	✓ 1. 10107
	✗ 2. 5615
	✗ 3. 7861
	✗ 4. 3369

Q.72	What is the pH value of pure water at 25°C?
Ans	✓ 1. 7
	✗ 2. 5
	✗ 3. 3
	✗ 4. 1

Q.73	If a resistor of 15 Ω carries a current of 2.5 A for 12 seconds, the heat produced is _____ joules.
Ans	✗ 1. 900
	✓ 2. 1125
	✗ 3. 1800
	✗ 4. 450

Q.74	L, K, M, N, O and P are sitting around a circular table facing the centre. L sits fourth to the right of O. M sits second to the left of L. N is not the immediate neighbour of M. K sits second to the right of N. How many people are sitting between P and N, when counted from the left of N?
Ans	✗ 1. None
	✓ 2. One
	✗ 3. Two
	✗ 4. Three

Q.75	A, B, C, D, E, F and G live on seven different floors of the same building. The lowermost floor on the building is numbered 1, the floor above it, number 2 and so on, till the topmost floor is numbered 7. C lives on the sixth floor. Only three people live between C and F. A lives on an even numbered floor. D lives on one of the floors below B but immediately above F. E lives on one of the floors above C. Who lives on the lowermost floor?
Ans	✓ 1. G
	✗ 2. F
	✗ 3. E
	✗ 4. B

Q.76	The length of each of the two equal sides of an isosceles triangle is 89 cm each and the length of its base is 78 cm. The area (in cm^2) of the triangle is:
Ans	✗ 1. 3139
	✗ 2. 3134
	✗ 3. 3102
	✓ 4. 3120

Q.77	$\frac{(a^{10} \times b^3 \times c^9)}{(a^9 \times b^6 \times c^9)}$ in simplified form is:
Ans	✗ 1. $(a^{-1}) \times (b^{-9}) \times (c^{-8})$
	✗ 2. $(a^{-1}) \times (b^{-3}) \times (c^{-10})$
	✓ 3. $(a^{1}) \times (b^{-3}) \times (c^{0})$
	✗ 4. $(a^{1}) \times (b^{-9}) \times (c^{-7})$

Q.78	Thermocol disposables are being widely used in parties and restaurants. By promoting this practice _____.
Ans	✗ 1. we are reducing expenses; disposables are cheap to use
	✗ 2. we are increasing the hygiene concern in us
	✗ 3. we are making the waste biodegradable
	✓ 4. we are increasing non-biodegradable waste

Q.79	A conductor has a current of 150 mA flowing through it with a resistance of 0.8 Ω. Find the potential difference across the conductor.
Ans	✗ 1. 120 V
	✓ 2. 0.12 V
	✗ 3. 18.75 V
	✗ 4. 5.3 V

Black book

Q.80	If a wire is stretched to quadruple its length without changing its area, what will happen to its resistivity?
Ans	✔ 1. It remains the same.
	✘ 2. It doubles.
	✘ 3. It halves.
	✘ 4. It quadruples.

Q.81	By selling an article at $\frac{2}{5}$ of its actual selling price, Manav incurs a los
Ans	✘ 1. 56.9%
	✘ 2. 52.6%
	✔ 3. 53.3%
	✘ 4. 55.5%

Q.82	Based on the English alphabetical order, three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which letter-cluster pair DOES NOT belong to that group? (Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)
Ans	✔ 1. NJ – SO
	✘ 2. VQ – ZU
	✘ 3. GB – KF
	✘ 4. MH – QL

Q.83	Write the expanded form of $(8a + 5b + 9c)^2$.
Ans	✘ 1. $64a^2 + 25b^2 + 81c^2 + 80ab + 85bc + 144ac$
	✘ 2. $64a^2 + 25b^2 + 81c^2 + 80ab + 90bc + 154ac$
	✘ 3. $64a^2 + 25b^2 + 81c^2 + 84ab + 90bc + 144ac$
	✔ 4. $64a^2 + 25b^2 + 81c^2 + 80ab + 90bc + 144ac$

Q.84	In a certain code,'silence gold words' is coded as 'nu mh ke','gold is precious' is coded as 'mh bi py' and'silence is calm' is coded as 'nu py gh'.What is the possible code for 'gold silence' in that language?
Ans	✔ 1. mh nu
	✘ 2. nu ke
	✘ 3. bi ke
	✘ 4. mh bi

Q.85	Evaluate 184^2
Ans	✔ 1. 33856
	✘ 2. 33866
	✘ 3. 33806
	✘ 4. 33836

Q.86	Evaluate: 16 + 18 ÷ 6 - 2 × 3
Ans	✘ 1. 12
	✘ 2. 15
	✔ 3. 13
	✘ 4. 16

Black

Q.87	**Which of the following is the correct definition of a homologous series?**
Ans	✗ 1. A series of compounds having different functional groups
	✓ 2. A series of compounds having the same functional group and similar chemical properties
	✗ 3. A series of compounds having identical physical properties
	✗ 4. A series of compounds with the same molecular mass

Q.88	**Select the option in which the numbers share the same relationship as that shared by the given pairs of numbers.** **(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 – Operations on 13 such as adding/subtracting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)** **18, 111** **13, 81**
Ans	✓ 1. 15, 93
	✗ 2. 19, 114
	✗ 3. 12, 69
	✗ 4. 17, 104

Q.89	**Which of the following is/are responsible for the depletion of the ozone layer in the atmosphere?**
Ans	✗ 1. Ethane
	✗ 2. Hydrofluorocarbons
	✗ 3. Methane
	✓ 4. Chlorofluorocarbons

Q.90	**The average marks of a student in six subjects is 94. After re-evaluation in three subjects the marks were changed to 89 from 75, 90 from 82 and 88 from 80. In the remaining subjects, the marks remained unchanged. Find the new average marks.**
Ans	✗ 1. 95
	✗ 2. 97
	✗ 3. 98
	✓ 4. 99

Q.91	**What do the magnetic field lines around a bar magnet represent?**
Ans	✗ 1. The gravitational field
	✗ 2. The flow of air around the magnet
	✓ 3. The direction and strength of the magnetic field
	✗ 4. The movement of electrons around the magnet

Q.92	Find the value of $\frac{\cos 35^\circ}{\sin 55^\circ} - \frac{\sin 11^\circ}{\cos 79^\circ} + \cos 28^\circ \operatorname{cosec} 62^\circ + \cos 0^\circ$.
Ans	✗ 1. 0
	✓ 2. 2
	✗ 3. 1
	✗ 4. −1

Black Book

Q.93	The Fleming's right hand rule is used to find the:
Ans	✗ 1. direction of the magnetic field associated with a current carrying conductor
	✗ 2. direction of the gravitational field
	✓ 3. direction of the current of a current carrying conductor
	✗ 4. direction of the motion of the current carrying conductor

Q.94	In a redox reaction, reduction can be described as:
Ans	✗ 1. loss of electrons
	✗ 2. addition of an electronegative element
	✗ 3. addition of oxygen
	✓ 4. addition of hydrogen

Q.95	Which of the following articles deals with the office of the special officer for Linguistic Minorities?
Ans	✓ 1. 350-B
	✗ 2. 351-B
	✗ 3. 351-A
	✗ 4. 350-A

Q.96	Which of the following teams won the 17th Edition of Indian Premier League?
Ans	✓ 1. Kolkata Knight Riders
	✗ 2. Delhi Capitals
	✗ 3. Mumbai Indians
	✗ 4. Chennai Superkings

Q.97	Select the option in which the numbers share the same relationship as that shared by the given pair of numbers. (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 – Operations on 13 such as adding/subtracting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.) **12, 113** **15, 140**
Ans	✗ 1. 14, 126
	✗ 2. 8, 67
	✗ 3. 17, 136
	✓ 4. 11, 104

Q.98	Mohan went to a cafe and ordered a soft drink. The waiter brought his order in a plastic glass with a plastic straw. Mohan, being environment friendly, is not happy as:
Ans	✓ 1. plastic glass and plastic straw is non biodegradable and persists in soil for a long time
	✗ 2. a plastic glass and plastic straw does not add to the standard of the cafe
	✗ 3. the plastic glass and plastic straw were not of his favourite colour
	✗ 4. plastic glass and plastic straw spoils the taste of the drink

Q.99	**The potential difference, V, across the ends of a given metallic wire in an electric circuit is directly proportional to the current flowing through it, provided its temperature remains the same. This is known as:**
Ans	✔ 1. Ohm's law
	✘ 2. Ampere's law
	✘ 3. Newton's law
	✘ 4. Resistance law

Q.100	**What is the primary function of 'viharas' in Buddhist architecture?**
Ans	✘ 1. To serve as meditation halls
	✘ 2. To house relics
	✔ 3. To serve as residential places for Buddhist priests
	✘ 4. To hold public gatherings

2024/12/19-21:11:39

Black

रेल भर्ती बोर्ड / RAILWAY RECRUITMENT BOARDS
सी ई एन आर आर बी - ०३/२०२४ - CEN RRB - 03/2024

Test Center Name	Om Sri Sai Buddhi Siddhi
Test Date	16/12/2024
Test Time	4:30 PM - 6:00 PM
Subject	RRB JE DMS CMA CS MS

*** Note**
Correct Answer will carry 1 mark per Question.
Incorrect Answer will carry 1/3 Negative mark per Question.

1. Options shown in green color with a tick icon are correct.
2. Chosen option on the right of the question indicates the option selected by the candidate.

Section : **RRB JE, DMS, CMA, CS, MS CBT-1**

Q.1	**In the reaction $MnO_2 + 4HCl \rightarrow MnCl_2 + 2H_2O + Cl_2$, what is being reduced?**
Ans	✗ 1. Chlorine (Cl)
	✓ 2. Manganese (Mn)
	✗ 3. Oxygen (O)
	✗ 4. Hydrogen (H)

Q.2	**Who is the author of 'Segar: Autobiography with Paintings,' published in 2013?**
Ans	✗ 1. Salman Rushdie
	✓ 2. D Raja Segar
	✗ 3. Jhumpa Lahiri
	✗ 4. Githa Hariharan

Q.3	**What is the perimeter of a sector of a circle (in cm) if the radius of the circle is 10.5 cm and the angle subtended at the centre of the circle is 60°? (Use $\pi = \frac{22}{7}$)**
Ans	✗ 1. 43
	✗ 2. 37
	✗ 3. 41
	✓ 4. 32

Q.4	**Which factor does NOT affect the electric power consumed by an electric device?**
Ans	✗ 1. Resistance of the device
	✗ 2. Voltage applied to the device
	✓ 3. Frequency of the device
	✗ 4. Current passing through the device

Q.5	**Which of the following factors directly affects the resistance of a conductor?**
Ans	✓ 1. Length of the conductor
	✗ 2. Current through the conductor
	✗ 3. Power of the conductor
	✗ 4. Voltage across the conductor

Q.6	After fertilisation, the zygote divides multiple times to form which structure within the ovule?
Ans	✗ 1. Style
	✓ 2. Embryo
	✗ 3. Seed
	✗ 4. Fruit

Q.7	If 1 is added to each odd digit and 2 is subtracted from each even digit in the number 4835176, what will be the sum of the digits which are second from the left and second from the right?
Ans	✗ 1. 11
	✓ 2. 14
	✗ 3. 12
	✗ 4. 10

Q.8	Three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which is the letter-cluster pair that does NOT belong to that group? (Note: The odd one out is not based on the number of consonants/vowels or their positions in the letter-cluster.)
Ans	✗ 1. ZW - SP
	✗ 2. NK - GD
	✓ 3. RV - KJ
	✗ 4. TQ - MJ

Q.9	According to the Citizenship Amendment Act of 2019, individuals who entered India on or before _____ and belong to the Hindu, Sikh, Buddhist, Jain, Parsi or Christian community from Pakistan, Afghanistan or Bangladesh are eligible for citizenship.
Ans	✗ 1. 31 December 2017
	✗ 2. 31 December 2016
	✓ 3. 31 December 2014
	✗ 4. 31 December 2015

Q.10	Which of the following are the 6 accounts that have a role in the economic classification of the budget?
Ans	✗ 1. Accounts 1 to 6: Transaction in commodities and services and transfers
	✗ 2. Accounts A to F: Transaction in goods, services, and capital
	✓ 3. Accounts I to VI: Transaction in commodities, revenue, and capital
	✗ 4. Accounts X to XV: Transaction in current and capital assets

Q.11	Which of the following metals is least likely to corrode in moist air?
Ans	✗ 1. Magnesium
	✗ 2. Zinc
	✓ 3. Copper
	✗ 4. Iron

Q.12	P is the son of Q's brother R. S is the wife of Q and T is the son of S. How is P related to S?
Ans	✗ 1. Father's brother
	✗ 2. Brother's son
	✓ 3. Father's brother's son
	✗ 4. Father's son

Black

Q.13	In plants, spore formation is a mode of reproduction that involves the production of spores. Which of the following statements about spore formation is true?
Ans	✗ 1. Spores are produced by flowers, and they grow into seeds.
	✗ 2. Spores are a form of vegetative propagation in angiosperms only.
	✓ 3. Spores are produced by non-flowering plants like ferns and mosses, and they grow into new plants.
	✗ 4. Spores are formed through sexual reproduction in plants.

Q.14	The average age of Mohan and his four friends is 36 years. Mohan is 5 years older than the average age of his four friends. Determine Mohan's age in years.
Ans	✓ 1. 40
	✗ 2. 42
	✗ 3. 38
	✗ 4. 44

Q.15	Which of the following letter-number clusters will replace the question mark (?) in the given series to make it logically complete? QTW 13, MPS 19, ILO 25, EHK 31, ADG 37, ?
Ans	✗ 1. WZC 47
	✗ 2. ZZC 43
	✗ 3. WGC 43
	✓ 4. WZC 43

Q.16	Two pipes can fill a tank in 20 hours and 90 hours, respectively. The time (in hours) required to fill the tank when both pipes are opened simultaneously is:
Ans	✗ 1. $\frac{177}{13}$
	✗ 2. $\frac{179}{9}$
	✓ 3. $\frac{180}{11}$
	✗ 4. $\frac{183}{8}$

Q.17	Which of the following letter-clusters should replace # and % so that the pattern and relationship followed between the letter-cluster pair on the left side of :: is the same as that on the right side of ::? # : IBX :: HAW : %
Ans	✗ 1. # = FUU, % = KDZ
	✗ 2. # = FYU, % = KDO
	✓ 3. # = FYU, % = KDZ
	✗ 4. # = FYU, % = NDZ

Q.18	Double displacement reactions usually occur in:
Ans	✓ 1. aqueous solution
	✗ 2. all three states
	✗ 3. gaseous state
	✗ 4. solid state

Black book

Q.19	The selling price of 25 books is equal to the cost price of 41 books. Find the loss or gain percentage.
Ans	✗ 1. $\frac{100}{16}\%\ loss$
	✓ 2. 64 % gain
	✗ 3. $\frac{100}{16}\%\ gain$
	✗ 4. 64 % loss

Q.20	A question is followed by two statements numbered (I) and (II). You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and select the most appropriate answer. Question: Five friends, P, Q, R, S and T, are sitting around a circular table facing the centre. Who is sitting second to the left of T? Statements: (I) S sits second to the right of P. T sits to the immediate left of P. (II) Only one person sits between Q and R. P sits to the immediate left of R.
Ans	✓ 1. Data in statement I alone is sufficient to answer the question while data in statement II is not.
	✗ 2. Data in statements I and II together are sufficient to answer the question.
	✗ 3. Data in statements I and II together are not sufficient to answer the question.
	✗ 4. Data in statement II alone is sufficient to answer the question while data in statement I is not.

Q.21	At which of the following places is the tomb of Sher Shah located?
Ans	✗ 1. Patna
	✗ 2. Lahore
	✗ 3. Agra
	✓ 4. Sasaram

Q.22	Refer to the given number, symbol series and answer the question that follows. Counting to be done from left to right only. (Left) 2 3 $ 7 5 & 6 % 3 $ # 9 @) 7 + 6 ? > ? 4 7 5 $ (Right) How many such numbers are there each of which is immediately preceded by a symbol and also immediately followed by another symbol?
Ans	✓ 1. 5
	✗ 2. 6
	✗ 3. 4
	✗ 4. 7

Q.23	Who among the following is the leader of the house in the Lok Sabha?
Ans	✗ 1. Opposition Leader
	✓ 2. Prime Minister
	✗ 3. President of India
	✗ 4. Lok Sabha Speaker

Q.24	The mean marks of the following distribution is: Marks Obtained | No. of Students 83 | 9 73 | 5 20 | 18 82 | 16
Ans	✔ 1. 58
	✘ 2. 78
	✘ 3. 57
	✘ 4. 50

Q.25	Which of the following is the correct formula for the first member of the alkene series?
Ans	✘ 1. C_5H_{10}
	✔ 2. C_2H_4
	✘ 3. C_3H_6
	✘ 4. C_4H_8

Q.26	Which of the following ratio is smallest?
Ans	✘ 1. 17 : 39
	✔ 2. 10 : 36
	✘ 3. 15 : 33
	✘ 4. 23 : 48

Q.27	What should come in place of the question mark (?) in the given series based on the English alphabetical order? GNK IPM KRO MTQ ?
Ans	✔ 1. OVS
	✘ 2. OUR
	✘ 3. OUS
	✘ 4. OVR

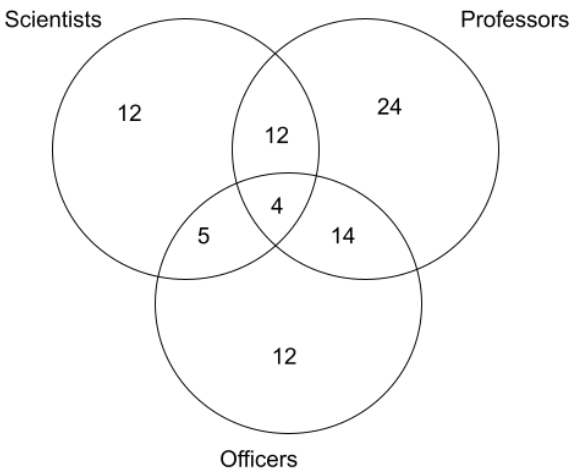
Q.28	Akshat completes his journey in 10 hours. He covers half the distance at 72 km/h and the rest at 36 km/h. What is the length of the journey (in Km)?
Ans	✘ 1. 473
	✘ 2. 471
	✔ 3. 480
	✘ 4. 481

Q.29	A number when increased by 50 %', gives 2910. The number is:
Ans	✘ 1. 5820
	✔ 2. 1940
	✘ 3. 3880
	✘ 4. 970

Black book

Q.30	Which of the following helps a developing embryo to expel waste products in case of humans?
Ans	✗ 1. Oviduct
	✓ 2. Placenta
	✗ 3. Ovary
	✗ 4. Cervix

Q.31	If at same rate of interest, in 2 years, the simple interest is ₹56 and compound interest is ₹72, then what is the principal (in ₹)?
Ans	✗ 1. 44
	✓ 2. 49
	✗ 3. 53
	✗ 4. 42

Q.32	Study the given diagram carefully and answer the question that follows. The numbers in different sections indicate the number of persons/objects.  How many such officers exist that are also scientists but not professors?
Ans	✗ 1. 12
	✗ 2. 16
	✗ 3. 4
	✓ 4. 5

Q.33	Find the value of $2.5 \times 4 + 3.68 \div 4 - 8.46 \times 2 + 7.365 \times 4 + 2.8 \times 3$
Ans	✗ 1. 27.98
	✗ 2. 28.96
	✓ 3. 28.51
	✗ 4. 27.21

Q.34	A vendor bought lemons at 40 for a rupee. How many must he sell for a rupee to gain 25%?
Ans	✓ 1. 32
	✗ 2. 36
	✗ 3. 33
	✗ 4. 34

Black

Q.35	**What is the role of the stigma in the process of fertilisation?**
Ans	✗ 1. Fusing with the egg cell
	✗ 2. Producing pollen
	✗ 3. Developing into a seed
	✓ 4. Serving as the site where pollen lands

Q.36	**Covalent molecules have low melting and boiling point because:**
Ans	✗ 1. they have strong electrostatic intermolecular forces
	✓ 2. they have weak intermolecular forces
	✗ 3. they are generally gaseous in nature
	✗ 4. they have strong bonds within the molecule

Q.37	If the ratio of four angles of a quadrilateral is $\angle A : \angle B : \angle C : \angle D :$
Ans	✓ 1. 60°
	✗ 2. 90°
	✗ 3. 50°
	✗ 4. 40°

Q.38	**What is the median of the following data?** **50, 48, 40, 73, 29, 14, 89, 14, 51, 76, 78**
Ans	✗ 1. 50.5
	✗ 2. 49.5
	✓ 3. 50
	✗ 4. 51

Q.39	**Which of the following statements is/are correct about the PM Vishwakarma Yojana?** **1) The PM Vishwakarma Yojana was launched by the Hon'ble Prime Minister on 17 September 2023.** **2) Scheme aims to provide end-to-end support to artisans and craftspeople who work with their hands and tools.** **3) The Scheme components include recognition through PM Vishwakarma Certificate and ID Card, Skill Upgradation, Toolkit Incentive, Credit Support, Incentive for Digital Transactions, and Marketing Support.**
Ans	✗ 1. 2 only
	✗ 2. 3 only
	✗ 3. 1 only
	✓ 4. 1, 2 and 3

Q.40	$\frac{(a^5 \times b^9 \times c^1)}{(a^6 \times b^3 \times c^8)}$ in simplified form is:
Ans	✗ 1. $(a^{-10}) \times (b^{-5}) \times (c^{-8})$
	✓ 2. $(a^{-1}) \times (b^{6}) \times (c^{-7})$
	✗ 3. $(a^{-5}) \times (b^{3}) \times (c^{-6})$
	✗ 4. $(a^{4}) \times (b^{-10}) \times (c^{1})$

Black

Q.41	If 'M' is the smallest perfect square number, which is exactly divisible by 12, 15 and 18, then find the sum of the digits of the quotient obtained, when M is divided by 25.
Ans	✗ 1. 7
	✗ 2. 8
	✗ 3. 6
	✓ 4. 9

Q.42	Refer to the following number and symbol series and answer the question that follows. Counting to be done from left to right only. (Left) 7 % > 9 2 & 4 < 3 # 8 $ 5 * 6 ^ # 1 (Right) If all the symbols are dropped from the series, which of the following will be third from the left?
Ans	✓ 1. 2
	✗ 2. 4
	✗ 3. 3
	✗ 4. 8

Q.43	If $\sin\theta = \frac{12}{13}$, then what is the value of $26\sin\theta - 10\sec\theta$?
Ans	✗ 1. 0
	✗ 2. 1
	✗ 3. 2
	✓ 4. −2

Q.44	If two resistors in series are equal, say R each, what is the total resistance?
Ans	✗ 1. R^2
	✗ 2. R/2
	✓ 3. 2R
	✗ 4. R

Q.45	Find the total time taken by boat to travel upstream and downstream, if the distance travel in each direction (upstream and downstream) is 270km. If speed of boat is 24 km/h and speed of current is 21 km/h.
Ans	✗ 1. 106 hours
	✗ 2. 104 hours
	✗ 3. 87 hours
	✓ 4. 96 hours

Q.46	Write the expanded form of $(4a + 6b + 9c)^2$.
Ans	✗ 1. $16a^2 + 36b^2 + 81c^2 + 52ab + 108bc + 72ac$
	✗ 2. $16a^2 + 36b^2 + 81c^2 + 48ab + 108bc + 82ac$
	✓ 3. $16a^2 + 36b^2 + 81c^2 + 48ab + 108bc + 72ac$
	✗ 4. $16a^2 + 36b^2 + 81c^2 + 48ab + 103bc + 72ac$

Q.47	Resistance is the property of a material that _____.
Ans	✗ 1. generates electricity
	✗ 2. allows the flow of current
	✓ 3. opposes the flow of current
	✗ 4. converts electrical energy to mechanical energy

Black book

Q.48	What should come in place of the question mark (?) in the given series? 305 251 206 170 143 ?
Ans	✗ 1. 130
	✓ 2. 125
	✗ 3. 120
	✗ 4. 115

Q.49	Who among the following secured a gold medal for India at the Paris Paralympics 2024?
Ans	✗ 1. Sachin Khilari
	✗ 2. Hokato Hotozhe Sema
	✗ 3. Pranav Soorma
	✓ 4. Navdeep Singh

Q.50	Evaluate: 16 + 18 ÷ 3 - 3 × 3
Ans	✗ 1. 15
	✗ 2. 12
	✗ 3. 16
	✓ 4. 13

Q.51	Keshav starts from Point A and drives 22 km towards the South. He then takes a left turn, drives 24 km, turns left and drives 27 km. He then takes a left turn and drives 25 km. He takes a final left turn, drives 5 km and stops at Point P. How far (shortest distance) and towards which direction should he drive in order to reach Point A again? (All turns are 90 degrees turns only unless specified)
Ans	✗ 1. 2 km to the east
	✓ 2. 1 km to the east
	✗ 3. 4 km to the east
	✗ 4. 3 km to the east

Q.52	In which of the following scenarios does the focal length of a concave mirror vary?
Ans	✗ 1. When placed in air
	✗ 2. When placed in water
	✓ 3. Focal length does not vary in any media
	✗ 4. When placed in a vacuum

Q.53	Write the expanded form of $(3a + 5b + 7c)^2$.
Ans	✗ 1. $9a^2 + 25b^2 + 49c^2 + 34ab + 70bc + 42ac$
	✗ 2. $9a^2 + 25b^2 + 49c^2 + 30ab + 70bc + 52ac$
	✓ 3. $9a^2 + 25b^2 + 49c^2 + 30ab + 70bc + 42ac$
	✗ 4. $9a^2 + 25b^2 + 49c^2 + 30ab + 65bc + 42ac$

Q.54	Why might surgical family planning methods be risky if not done correctly?
Ans	✗ 1. They can increase fertility.
	✓ 2. They can lead to infections or complications.
	✗ 3. They may cause hormonal side effects.
	✗ 4. They might prevent ovulation.

Black

Q.55	Which of the following best describes a combination reaction?
Ans	✗ 1. A reaction where a product releases gas
	✓ 2. Two elements combine to form a compound
	✗ 3. Ions exchange between two compounds
	✗ 4. A compound breaks down into simpler substances

Q.56	What is the thread-like structure in Rhizopus?
Ans	✗ 1. Sporangia
	✗ 2. Spores
	✗ 3. Blobs
	✓ 4. Hyphae

Q.57	Why does a compass needle get deflected when brought near a bar magnet?
Ans	✓ 1. The compass needle is a small bar magnet.
	✗ 2. The compass needle is non-magnetic.
	✗ 3. The compass needle has electric charge.
	✗ 4. The compass needle is made of iron.

Q.58	Find the simple interest (in closest integral ₹) on ₹3000 at 8% per annum rate of interest for the period from 25 February 2024 to 26 April 2024
Ans	✗ 1. 39
	✗ 2. 38
	✗ 3. 41
	✓ 4. 40

Q.59	Which of the following is NOT a private sector company in India?
Ans	✗ 1. Dabur
	✗ 2. Tata Iron and Steel Company
	✓ 3. Bharat Heavy Electricals Limited
	✗ 4. Bajaj Auto Limited

Q.60	Two taps can fill a cistern in 2 hours and 47 hours respectively. A third tap can empty it in 47 hours. How long (in hours) will it take to fill the empty cistern, if all of them are opened together?
Ans	✗ 1. 4
	✗ 2. 5
	✗ 3. 3
	✓ 4. 2

Q.61	What was the venue of the 57th ASEAN Foreign Ministers' Meeting?
Ans	✗ 1. Jakarta, Indonesia
	✗ 2. Kuala Lumpur, Malaysia
	✓ 3. Vientiane, Lao People's Democratic Republic
	✗ 4. Naypyidaw, Myanmar

Black Book

Q.62	The Great Stupa at Sanchi is an important site in which religion?
Ans	✔ 1. Buddhism
	✘ 2. Hinduism
	✘ 3. Jainism
	✘ 4. Islam

Q.63	In the case of a thin lens, how are the centres of curvature typically positioned relative to the optical centre?
Ans	✘ 1. They are closer to the edge than to the optical centre.
	✘ 2. They are located on the lens surface itself.
	✘ 3. They coincide with the optical centre.
	✔ 4. They are equidistant from the optical centre.

Q.64	If x is inversely proportional to y, and y = 7 when x = 5, find the value of x, when y = 90.
Ans	✘ 1. $\frac{8}{19}$
	✘ 2. $\frac{9}{21}$
	✔ 3. $\frac{7}{18}$
	✘ 4. $\frac{7}{19}$

Q.65	What should come in place of the question mark (?) in the given series? 29 11 29 15 29 19 29 23 29 ?
Ans	✘ 1. 31
	✘ 2. 25
	✘ 3. 29
	✔ 4. 27

Q.66	Which of the following chemical equations is balanced?
Ans	✘ 1. $H_2 + 2O_2 \rightarrow 2H_2O$
	✘ 2. $H_2O + O_2 \rightarrow H_2O_2$
	✘ 3. $H_2 + O_2 \rightarrow H_2O$
	✔ 4. $2H_2 + O_2 \rightarrow 2H_2O$

Q.67	The knowledge of which two subjects played key role in formulating laws of Inheritance?
Ans	✘ 1. Maths and History
	✘ 2. Philosophy and Science
	✘ 3. Geography and Philosophy
	✔ 4. Maths and Science

Black

Q.68	Two sets of numbers are given below. In each set of numbers, certain mathematical operation(s) on the first number result(s) in the second number. Similarly, certain mathematical operation(s) on the second number result(s) in the third number and so on. Which of the given options follows the same set of operations as in the given sets? (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g. 13 – Operations on 13 such as adding / subtracting /multiplying to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.) 6-36-46-92; 7-49-59-118
Ans	✗ 1. 4-16-26-62
	✓ 2. 5-25-35-70
	✗ 3. 8-64-74-138
	✗ 4. 3-9-29-58

Q.69	Which of the following statements is true about the pH of a neutral solution at 25°C?
Ans	✗ 1. The pH is less than 7.
	✗ 2. The pH is greater than 7.
	✗ 3. The pH is not equal to 7.
	✓ 4. The pH is equal to 7.

Q.70	Select the letter-cluster pair that best represents a similar relationship to the one expressed in the pairs of letter-clusters given below. DMO : HPM LIF : PLD
Ans	✗ 1. ENZ : IQY
	✗ 2. RKY : VNV
	✓ 3. VFP : ZIN
	✗ 4. NEL : RGJ

Q.71	Q, R, S, T, U and V live on six different floors of the same building. The lowermost floor in the building is numbered 1, the floor above it, number 2 and so on till the topmost floor is numbered 6. S lives on the third floor. Only two people live between S and U. R lives on one of the floors below U but immediately above Q. Q does not live on the fourth floor. V lives on an odd numbered floor. How many people live between T and Q?
Ans	✗ 1. Four
	✗ 2. Three
	✓ 3. Two
	✗ 4. One

Q.72	A cylindrical rod has an outer curved surface area of 4500 cm^2. If the length of the rod is 39 cm, then the outer radius (in cm) of the rod, correct to two places of decimal, is: $Take\ \pi = \frac{22}{7}$
Ans	✗ 1. 20.48
	✗ 2. 18.25
	✗ 3. 20.93
	✓ 4. 18.36

Q.73	Write the expanded form of $(3a + 6b + 5c)^2$.
Ans	✗ 1. $9a^2 + 36b^2 + 25c^2 + 40ab + 60bc + 30ac$
	✓ 2. $9a^2 + 36b^2 + 25c^2 + 36ab + 60bc + 30ac$
	✗ 3. $9a^2 + 36b^2 + 25c^2 + 36ab + 55bc + 30ac$
	✗ 4. $9a^2 + 36b^2 + 25c^2 + 36ab + 60bc + 40ac$

Black Book

Q.74	When light exits a prism, what is the result of its interaction with the prism surfaces?
Ans	✔ 1. Light is refracted.
	✘ 2. Light passes through without any change.
	✘ 3. Light is only reflected.
	✘ 4. Light is only absorbed.

Q.75	What will come in the place of the question mark (?) in the following equation if '+' and '−' are interchanged and '÷' and '×' are interchanged? 51 − 8 ÷ 2 + 6 × 2 = ?
Ans	✘ 1. 70
	✘ 2. 71
	✘ 3. 66
	✔ 4. 64

Q.76	In a certain code language,'fast and furious' is coded as 'bo li ke','quick is furious' is coded as 'ke ra ng' and'fast but quick' is coded as 'ng li ty'.What is the code for 'furious' in that language?
Ans	✘ 1. bo
	✘ 2. ra
	✘ 3. li
	✔ 4. ke

Q.77	Which of the following is called a motile germ cell?
Ans	✘ 1. Embryo
	✘ 2. Zygote
	✘ 3. Female gamete
	✔ 4. Male gamete

Q.78	In a certain code, 'floor door room' is coded as 'bn la mt', 'door chair table' is coded as 'wd bn ka' and 'chair room window' is coded as 'ka bz la'. All the codes are two-letter code only. What is room coded as?
Ans	✘ 1. ka
	✘ 2. bn
	✘ 3. bz
	✔ 4. la

Q.79	If A's salary is 37 % more than that of B, then how much percent is B's salary less than that of A (correct to 2 decimal places)?
Ans	✘ 1. 29.04%
	✘ 2. 29.85%
	✔ 3. 27.01%
	✘ 4. 30.86%

Q.80	Where was the Swachh Vayu Diwas celebrated in India to combat air pollution in 2024?
Ans	✔ 1. Jaipur
	✘ 2. Chandigarh
	✘ 3. Bhopal
	✘ 4. Indore

Black

Q.81	When an atom of sodium reacts with an atom of chlorine to form sodium chloride, each sodium atom:
Ans	✗ 1. gains one proton
	✗ 2. loses one proton
	✓ 3. loses one electron
	✗ 4. gains one electron

Q.82	The current through a resistor is:
Ans	✓ 1. inversely proportional to the resistance
	✗ 2. proportional to the square of the resistance
	✗ 3. proportional to the square root of the resistance
	✗ 4. directly proportional to the resistance

Q.83	The average price of three items of furniture is Rs 16800. If their prices are in the ratio 3:5:7, the price of the cheapest item (in Rs) is
Ans	✗ 1. 5600
	✓ 2. 10080
	✗ 3. 7840
	✗ 4. 3360

Q.84	Based on the English alphabetical order, three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which letter-cluster pair DOES NOT belong to that group? (Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)
Ans	✗ 1. VY-CI
	✗ 2. SV-ZF
	✗ 3. HK-OU
	✓ 4. FI-NS

Q.85	7 is related to 9.8 following a certain logic. Following the same logic, 11 is related to 15.4. To which of the given options is 9 related, following the same logic? (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g. 13 – Operations on 13 such as adding/subtracting/multiplying to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)
Ans	✗ 1. 13.8
	✗ 2. 12.4
	✓ 3. 12.6
	✗ 4. 11.6

Q.86	The Moplah Rebellion of 1921 took place in which of the following regions?
Ans	✗ 1. Assam
	✓ 2. Kerala
	✗ 3. Punjab
	✗ 4. Bengal

Q.87	S, T, U, V, W, X and Y are sitting around a circular table facing the centre. S sits fourth to the left of W. T sits second to the right of S. V is neither the immediate neighbour of T nor S. X sits third to the right of V. Y is not the immediate neighbour of W. How many people are sitting between S and T, when counted from the left of S?
Ans	✔ 1. Four
	✘ 2. Three
	✘ 3. Two
	✘ 4. One

Q.88	B, C, D, F and H have different marks. Only one person has scored between B and D. Only three people have scored between H and B. No one has scored between F and B and F's score is more than B's score. How many people have scored less than C?
Ans	✘ 1. Two
	✔ 2. Three
	✘ 3. One
	✘ 4. Four

Q.89	Space Kidz India has launched the ShakthiSAT mission to train _____ girls aged 14-18 from 108 countries in space technology, aiming for a satellite launch under ISRO's Chandrayaan-4 mission in 2026.
Ans	✘ 1. 10,000
	✘ 2. 5000
	✔ 3. 12,000
	✘ 4. 7500

Q.90	What is the correct sequence of following mountain ranges of India from north to south? 1. Vindhya Range 2. Aravalli Range 3. Ajanta Range 4. Satpura Range
Ans	✘ 1. 2, 1, 3, 4
	✘ 2. 1, 2, 4, 3
	✔ 3. 2, 1, 4, 3
	✘ 4. 1, 2, 3, 4

Q.91	Which of the following is true regarding the bud development process in Hydra?
Ans	✘ 1. Formation of spore
	✔ 2. Cell divisions at one site
	✘ 3. Splitting of nucleus
	✘ 4. Splitting of cytoplasm

Q.92	If x varies inversely as $y^3 - 1$ and is equal to 7 when y = 2, find x when y = 6.
Ans	✘ 1. $\frac{49}{216}$
	✔ 2. $\frac{49}{215}$
	✘ 3. $\frac{51}{215}$
	✘ 4. $\frac{50}{216}$

Black book

Q.93	In which case will a lens produce a magnification of exactly 1?
Ans	✔ 1. When the object is placed at twice the focal length
	✘ 2. When the object is placed at the focal point
	✘ 3. When the object is placed between centre of curvature and focal point
	✘ 4. When the object is at infinity

Q.94	A shopkeeper sells an item for ₹287.7 after giving two successive discounts of 86% and 85% on its marked price. Had he not given any discount, he would have earned a profit of 37%. What is the cost price (in ₹) of the item?
Ans	✘ 1. 9958
	✘ 2. 10046
	✔ 3. 10000
	✘ 4. 10038

Q.95	Which of the following is related to Article 84 of the Constitution?
Ans	✘ 1. Disqualification for membership
	✔ 2. Qualification for membership of Parliament
	✘ 3. Annual Financial Statement
	✘ 4. Ordinance making Power of President

Q.96	Which of the following reactions leads to the production of bleaching powder?
Ans	✘ 1. $CaCO_3 + HCl \rightarrow CaCl_2 + CO_2 + H_2O$
	✘ 2. $CaO + H_2O \rightarrow Ca(OH)_2$
	✘ 3. $Ca(OH)_2 + CO_2 \rightarrow CaCO_3 + H_2O$
	✔ 4. $Ca(OH)_2 + Cl_2 \rightarrow CaOCl_2 + H_2O$

Q.97	Select the option in which the triads share the same relationship as that shared by the given triads. HAND - ANDH - NDHA BIRD - IRDB - RDBI
Ans	✘ 1. DUCK - CKDU - CUKD
	✘ 2. FROG - ROGF - ROFG
	✔ 3. ROSE - OSER - SERO
	✘ 4. CUBE - CEBU - BUEC

Q.98	The average price of three items of furniture is Rs 16875. If their prices are in the ratio 3:5:7, the price of the cheapest item (in Rs) is
Ans	✘ 1. 3375
	✔ 2. 10125
	✘ 3. 7875
	✘ 4. 5625

Q.99	In a row of people all facing north, Shakshi is 11^{th} from the left end. Ravi is 12^{th} from the left end. Ravi is exactly between Shakshi and Ron. If Ron is 14^{th} from the right end of the row, how many people are there in the row?
Ans	✘ 1. 25
	✔ 2. 26
	✘ 3. 27
	✘ 4. 28

Q.100	What is the final product of sexual reproduction in plants?
Ans	✗ 1. Fruits
	✗ 2. Leaves
	✓ 3. Seeds
	✗ 4. Flowers

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Blackb

रेल भर्ती बोर्ड / RAILWAY RECRUITMENT BOARDS
सी ई एन आर आर बी - ०३/२०२४ - CEN RRB - 03/2024

Test Center Name	Perth Digital Zone
Test Date	17/12/2024
Test Time	9:00 AM - 10:30 AM
Subject	RRB JE DMS CMA CS MS

*** Note**
Correct Answer will carry 1 mark per Question.
Incorrect Answer will carry 1/3 Negative mark per Question.

1. Options shown in green color with a tick icon are correct.
2. Chosen option on the right of the question indicates the option selected by the candidate.

Section : **RRB JE, DMS, CMA, CS, MS CBT-1**

Q.1	**Who among the following was the first attorney General of Independent India?**
Ans	✗ 1. SV Gupta
	✗ 2. Niren de
	✗ 3. Soli Sorabjee
	✓ 4. MC Setalvad

Q.2	**Three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which is the letter-cluster pair that does NOT belong to that group? (Note: The odd one out is not based on the number of consonants/vowels or their positions in the letter-cluster.)**
Ans	✓ 1. OF - NG
	✗ 2. CT - AU
	✗ 3. HY - FZ
	✗ 4. SJ - QK

Q.3	**Evaluate: 32 ÷ 12 × 3 - 3 × 4**
Ans	✗ 1. -2
	✗ 2. -5
	✓ 3. -4
	✗ 4. -1

Q.4	**Which of the following is NOT an essential qualification for being elected as the President?**
Ans	✗ 1. Qualified for election as a member of the House of the People
	✓ 2. Highly educated
	✗ 3. Completion of 35 years
	✗ 4. Citizen of India

Q.5	**The first fundamental factor for evolution is:**
Ans	✗ 1. competition among individuals
	✓ 2. genetic variation
	✗ 3. healthy offsprings
	✗ 4. cell division for growth

Q.6	Write the expanded form of $(6a + 8b + 3c)^2$.
Ans	✔ 1. $36a^2 + 64b^2 + 9c^2 + 96ab + 48bc + 36ac$
	✘ 2. $36a^2 + 64b^2 + 9c^2 + 100ab + 48bc + 36ac$
	✘ 3. $36a^2 + 64b^2 + 9c^2 + 96ab + 43bc + 36ac$
	✘ 4. $36a^2 + 64b^2 + 9c^2 + 96ab + 48bc + 46ac$

Q.7	Among five people named A, B, C, D and E, each has a certain age. C is thrice the age of D. The age of A is 6. D is half the age of E. B is twice the age of A. If E is four times the age of B, what is the age of C?
Ans	✘ 1. 70
	✔ 2. 72
	✘ 3. 75
	✘ 4. 76

Q.8	The diameters of two concentric circles are 34 cm and 50 cm. A straig
Ans	✘ 1. 34 cm
	✘ 2. 30 cm
	✘ 3. 50 cm
	✔ 4. 40 cm

Q.9	In which process multicellular organisms break into smaller pieces upon maturation?
Ans	✔ 1. Fragmentation
	✘ 2. Sporulation
	✘ 3. Regeneration
	✘ 4. Fission

Q.10	Which of the following is an example of a natural monopoly?
Ans	✘ 1. Malls
	✘ 2. Apple store in delhi
	✘ 3. Bookshop
	✔ 4. Railways

Q.11	This question is based on five, four-digit numbers given below. (Example- 6970 – First digit = 6, second digit = 9, third digit = 7 and fourth digit=0) 2314 7651 3245 9072 8062 How many numbers are there wherein the sum of first and second digits is equal to the sum of third and fourth digits?
Ans	✔ 1. Three
	✘ 2. Four
	✘ 3. One
	✘ 4. Two

Q.12	Pollen grains are transferred to which part of pistil?
Ans	✘ 1. Ovary
	✘ 2. Style
	✘ 3. Ovule
	✔ 4. Stigma

Black book

Q.13	In a certain code language, 'A + B' means 'A is the son of B', 'A − B' means 'A is the brother of B', 'A × B' means 'A is the wife of B' and 'A % B' means ' A is the father of B'. How is S related to H if 'S × D + F % G − H'?
Ans	✔ 1. Brother's wife
	✘ 2. Daughter
	✘ 3. Wife
	✘ 4. Brother's daughter

Q.14	Select the option in which the triads share the same relationship as that shared by the given triads. JINX - JXIN - JNXI COZY - CYOZ - CZYO
Ans	✘ 1. DRUG - DGUR - DUGR
	✘ 2. EVIL - EIVL - ELIV
	✘ 3. FAIR - FARI - FIAR
	✔ 4. JAWS - JSAW - JWSA

Q.15	If the area of a trapezium is 80 cm^2 and the parallel sides are 13.5 and 6.5 cm, then the distance between them (in cm) is _____.
Ans	✘ 1. 12
	✘ 2. 9
	✘ 3. 10
	✔ 4. 8

Q.16	What should come in place of the question mark (?) in the given series? 19 30 52 96 184 ?
Ans	✔ 1. 360
	✘ 2. 362
	✘ 3. 361
	✘ 4. 359

Q.17	Which of the following letter-clusters should replace # and % so that the pattern and relationship followed between the letter-cluster pair on the left side of :: is the same as that on the right side of ::? # : ZWP :: FCV : %
Ans	✘ 1. # = USL, % = JGZ
	✘ 2. # = VSU, % = JGZ
	✘ 3. # = VSL, % = JGO
	✔ 4. # = VSL, % = JGZ

Q.18	Write the expanded form of $(5a + 6b + 8c)^2$.
Ans	✔ 1. $25a^2 + 36b^2 + 64c^2 + 60ab + 96bc + 80ac$
	✘ 2. $25a^2 + 36b^2 + 64c^2 + 60ab + 96bc + 90ac$
	✘ 3. $25a^2 + 36b^2 + 64c^2 + 60ab + 91bc + 80ac$
	✘ 4. $25a^2 + 36b^2 + 64c^2 + 64ab + 96bc + 80ac$

Black book

Q.19	Which of the following was the venue of the 46th session of the UNESCO World Heritage Committee?
Ans	✗ 1. New York, United States
	✗ 2. Paris, France
	✓ 3. New Delhi, India
	✗ 4. Dubai, United Arab Emirates

Q.20	Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusion(s) logically follow(s) from the statements. Statements: All plums are lamps. Some lamps are ants. All ants are meats. Conclusions: (I): All meats are lamps. (II): Some meats are plums.
Ans	✗ 1. Only conclusion (II) follows.
	✗ 2. Both conclusions (I) and (II) follow.
	✗ 3. Only conclusion (I) follows.
	✓ 4. Neither conclusion (I) nor (II) follows.

Q.21	18 is related to 62 following a certain logic. Following the same logic, 22 is related to 78. To which of the given options is 15 related to, following the same logic? (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g. 13 – Operations on 13 such as adding/subtracting/multiplying to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)
Ans	✗ 1. 45
	✓ 2. 50
	✗ 3. 55
	✗ 4. 60

Q.22	Which of the following is the National Waterway 2 in India?
Ans	✗ 1. West Coast canal and Champakara and Udyogmandal canals
	✗ 2. East Coast canal and Matai river
	✗ 3. Kakinada canal (Kakinada to Rajahmundry)
	✓ 4. Brahmaputra river

Q.23	In the reaction: $Zn + CuSO_4 \rightarrow ZnSO_4 + Cu$, what happens to zinc?
Ans	✗ 1. Zinc is reduced.
	✓ 2. Zinc is oxidised.
	✗ 3. Zinc does not change.
	✗ 4. Zinc loses electrons.

Q.24	In a certain code, ‘air water land’ is coded as ‘dy ph mt’,‘fire land ice’ is coded as ‘lp ph st’, and‘water fire grass’ is coded as ‘st bq dy’.What is the code for 'land' in that language? (Note: All the codes are two letter coded only.)
Ans	✔ 1. ph
	✘ 2. st
	✘ 3. mt
	✘ 4. dy

Q.25	A and B can do a piece of work in 8 days and 37 days, respectively. The number of days [Correct to one decimal place] required to complete the work if both A and B work together is:
Ans	✘ 1. 10.7
	✘ 2. 7.1
	✘ 3. 7.7
	✔ 4. 6.5

Q.26	Two sets of numbers are given below. In each set of numbers, certain mathematical operation(s) on the first number result(s) in the second number. Similarly, certain mathematical operation(s) on the second number result(s) in the third number and so on. Which of the given options follows the same set of operations as in the given sets? (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g. 13 – Operations on 13 such as adding / subtracting /multiplying to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.) 8-24-72-216; 6-18-54-162
Ans	✘ 1. 11-33-99-287
	✘ 2. 9-27-81-343
	✘ 3. 12-36-108-216
	✔ 4. 7-21-63-189

Q.27	Write the expanded form of $(7a + 9b + 4c)^2$.
Ans	✘ 1. $49a^2 + 81b^2 + 16c^2 + 130ab + 72bc + 56ac$
	✘ 2. $49a^2 + 81b^2 + 16c^2 + 126ab + 67bc + 56ac$
	✘ 3. $49a^2 + 81b^2 + 16c^2 + 126ab + 72bc + 66ac$
	✔ 4. $49a^2 + 81b^2 + 16c^2 + 126ab + 72bc + 56ac$

Q.28	What is the average of all the natural numbers from 1 to 98?
Ans	✘ 1. 50
	✔ 2. 49.5
	✘ 3. 50.5
	✘ 4. 49

Q.29	A man walks to a viewpoint and returns to the starting point by his car maintaining constant speed and thus takes a total time of 3 hours 15 minutes. He would have gained 3 hours by driving both ways. How long would it have taken for him to walk both ways with same walking speed?
Ans	✔ 1. 6 hours 15 minutes
	✘ 2. 5 hours 15 minutes
	✘ 3. 6 hours 45 minutes
	✘ 4. 7 hours 30 minutes

Black

Q.30	A man spends 76% of his monthly salary (in ₹) on the rent of his house. If every month he also spends ₹813 on his conveyance and ₹2508 on his grocery and saves the remaining ₹687, his monthly salary (in ₹) is:
Ans	✗ 1. 16611
	✗ 2. 16621
	✓ 3. 16700
	✗ 4. 16617

Q.31	Shalini travels a distance of 138 km with speed of 46 km/h and 438 km with 73 km/h by her car. Find the average speed (in km/h) of Shalini.
Ans	✓ 1. 64
	✗ 2. 70
	✗ 3. 68
	✗ 4. 56

Q.32	Samples of four metals A, B, C and D were taken and added to a solution individually. The results obtained have been listed as follows. A can displace B from its solution B can displace D from its solution C can displace D from its solution C can displace A from its solution Which is the most reactive metal?
Ans	✗ 1. D
	✓ 2. C
	✗ 3. A
	✗ 4. B

Q.33	If at same rate of interest, in 2 years, the simple interest is ₹56 and compound interest is ₹64, then what is the principal (in ₹)?
Ans	✗ 1. 91
	✗ 2. 102
	✓ 3. 98
	✗ 4. 93

Q.34	Seven boxes, R, S, T, U, X, Y and Z, are kept one over the other but not necessarily in the same order. Only T is kept above X. Only Z is kept between X and Y. Only U is kept below R. How many boxes are kept between S and U?
Ans	✗ 1. Three
	✗ 2. Two
	✓ 3. One
	✗ 4. Four

Q.35	Which of these is NOT a property of magnetic field lines?
Ans	✓ 1. They repel each other.
	✗ 2. They are continuous closed loops.
	✗ 3. They travel from south to north inside the magnet.
	✗ 4. They never intersect.

Black

Q.36	What is the role of the ovary in the process of fertilisation in plants?
Ans	✗ 1. To produce pollen
	✗ 2. To provide nutrients to the pollen grains
	✓ 3. To produce the egg cell
	✗ 4. To store the male gametes

Q.37	Two taps can fill a cistern in 2 hours and 45 hours respectively. A third tap can empty it in 45 hours. How long (in hours) will it take to fill the empty cistern, if all of them are opened together?
Ans	✗ 1. 4
	✓ 2. 2
	✗ 3. 5
	✗ 4. 3

Q.38	If an image is formed by a spherical mirror with a magnification of +1, which of the following statements is true?
Ans	✗ 1. The image is virtual and half the size of the object.
	✗ 2. The image is real and equal in size to the object.
	✗ 3. The image is real and twice the size of the object.
	✓ 4. The image is virtual and equal in size to the object.

Q.39	In a certain code language,'batter ball six' is coded as 'lo ka di','bowler ball wicket' is coded as 'ka mi th' and'batter cricket bowler' is coded as 'lo th qy'.What is the possible code for 'cricket ball' in that language?
Ans	✗ 1. ka th
	✓ 2. ka qy
	✗ 3. th lo
	✗ 4. qy lo

Q.40	When several resistors are joined in series, the equivalent resistance of the combination is:
Ans	✓ 1. equal to the sum of the individual resistances
	✗ 2. greater than the sum of the individual resistances
	✗ 3. equal to the product of the individual resistances
	✗ 4. less than the sum of the individual resistances

Q.41	Which of the following statements is INCORRECT?
Ans	✗ 1. Amit Shah assumed charge as Union Home Minister and Minister of Cooperation in June 2024.
	✗ 2. Om Birla is elected as the Speaker of the 18th Lok Sabha.
	✗ 3. Narendra Modi took oath as the Prime Minister of India in June 2024.
	✓ 4. Sonia Gandhi became the Leader of Opposition in the 18th Lok Sabha.

Q.42	Find the arithmetic mean of the following data (correct to two places of decimals).

Class-interval	5-15	15-25	25-35	35-45	45-55	55-65
Frequency	12	18	8	14	16	8

Ans	✗ 1. 43.72
	✓ 2. 33.68
	✗ 3. 39.45
	✗ 4. 22.38

Q.43	A number when increased by 50 %', gives 2760. The number is:
Ans	✗ 1. 3680
	✓ 2. 1840
	✗ 3. 920
	✗ 4. 5520

Q.44	In the process of vegetative propagation, which part of the plant is used in grafting?
Ans	✗ 1. Root
	✗ 2. Seed
	✗ 3. Leaf
	✓ 4. Stem

Q.45	What is the average of all the natural numbers from 1 to 59?
Ans	✓ 1. 30
	✗ 2. 30.5
	✗ 3. 29.5
	✗ 4. 31

Q.46	Mahesh purchased 10 kg of rice at the rate of ₹35 per kg and 38 kg of rice at ₹46 per kg. He sold the mixture at the rate of ₹43.5 per kg. Find his loss (in ₹).
Ans	✓ 1. 10
	✗ 2. 18
	✗ 3. 15
	✗ 4. 5

Q.47	Which of the following rivers is ephemeral?
Ans	✗ 1. Beas
	✗ 2. Chambal
	✗ 3. Yamuna
	✓ 4. Luni

Q.48	A piece of zinc is placed in three different solutions: lead nitrate, aluminium sulphate and silver nitrate. Which solution(s) will zinc be able to displace the metal from its solution?
Ans	✗ 1. Aluminium sulphate and silver nitrate
	✓ 2. Lead nitrate and silver nitrate
	✗ 3. Only silver nitrate
	✗ 4. Lead nitrate and aluminium sulphate

Black book

Q.49	Evaluate: 16 + 16 ÷ 4 - 3 × 4
Ans	✗ 1. 11
	✗ 2. 10
	✗ 3. 7
	✓ 4. 8

Q.50	What will come in the place of the question mark (?) in the following equation, if '+' and '−' are interchanged and '×' and '÷' are interchanged? 26 + 43 − 32 × 23 ÷ 46 = ?
Ans	✗ 1. 45
	✗ 2. 48
	✗ 3. 49
	✓ 4. 47

Q.51	The concepts no double jeopardy, no self incrimination and no ex post facto are mentioned under _____ of the Indian Constitution.
Ans	✓ 1. Article 20
	✗ 2. Article 21
	✗ 3. Article 19
	✗ 4. Article 23

Q.52	One of the famous Kali temples in India, Kalighat, is located in which of the following Indian states?
Ans	✓ 1. West Bengal
	✗ 2. Maharastra
	✗ 3. Odisha
	✗ 4. Assam

Q.53	Which Indian cricketer was appointed as the brand ambassador for MotoGP in India in July 2024?
Ans	✗ 1. Rohit Sharma
	✗ 2. Jasprit Bumrah
	✓ 3. Shikhar Dhawan
	✗ 4. Virat Kohli

Q.54	Which of the following statements is NOT a reason for the versatile nature of carbon?
Ans	✗ 1. Carbon exhibits catenation
	✓ 2. Carbon can form ionic bonds with itself
	✗ 3. Carbon has tetravalency
	✗ 4. Carbon can form single, double, and triple bonds

Q.55	The National Health Authority (NHA) and _____ signed a Memorandum of Understanding (MoU) on 11th September. The partnership aims to revolutionise artificial intelligence in health research with an innovative data platform.
Ans	✗ 1. IIT Kharagpur
	✗ 2. IIT Delhi
	✗ 3. IIT Madras
	✓ 4. IIT Kanpur

Black Book

Q.56	The median of 7, 18, 22, 12, 14, 7, 23, 16 and 3 is:
Ans	✗ 1. 18
	✓ 2. 14
	✗ 3. 22
	✗ 4. 7

Q.57	What are the two versions of a gene controlling a trait called?
Ans	✗ 1. Chromosomes
	✗ 2. Proteins
	✗ 3. Mutations
	✓ 4. Alleles

Q.58	Five bells toll together initially and then continue to toll at time intervals of 4, 8, 12, 16 and 20 seconds respectively. If they start tolling simultaneously at 12:00 p.m., then find how many times they will toll together between 12:00 p.m. to 3:00 p.m.
Ans	✗ 1. 42
	✗ 2. 54
	✗ 3. 62
	✓ 4. 46

Q.59	Find the simple interest (in closest integral ₹) on ₹4000 at 5.25% per annum rate of interest for the period from 11 February 2024 to 12 April 2024
Ans	✗ 1. 34
	✗ 2. 36
	✗ 3. 33
	✓ 4. 35

Q.60	A question is followed by two statements numbered (I) and (II). You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and select the most appropriate answer. Question: Five trees, S, M, N, O and A, are of different heights. Which among them is the tallest tree? Statements: (I) N is taller than A. A is taller than M. (II) S is taller than M. S is shorter than O.
Ans	✗ 1. Data in statement I alone is sufficient to answer the question while data in statement II is not.
	✗ 2. Data in statement II alone is sufficient to answer the question while data in statement I is not.
	✓ 3. Data in statements I and II together are not sufficient to answer the question.
	✗ 4. Data in statements I and II together are sufficient to answer the question.

Q.61	A vertical stick 11 m long casts a shadow 7 m long on the ground. At the same time, a tower casts a shadow of 35 m long on the ground. The height of the tower is:
Ans	✗ 1. 60 m
	✗ 2. 50 m
	✗ 3. 52 m
	✓ 4. 55 m

Black

Q.62	**Seven people, B, D, E, F, P, Q and R, are sitting in a row, facing north. No one sits to the left of E. Only four people sit between E and R. Only three people sit to the right of D. F sits to the immediate left of B. P is not an immediate neighbour of D. Who sits third to the left of P?**
Ans	✗ 1. B
	✗ 2. F
	✗ 3. R
	✓ 4. D

Q.63	**Which of the following describes the relationship between the aperture of a lens and its radius of curvature in the context of thin lenses?**
Ans	✗ 1. The aperture is independent of the radius of curvature.
	✗ 2. The aperture is much larger than the radius of curvature.
	✓ 3. The aperture is much smaller than the radius of curvature.
	✗ 4. The aperture equals the radius of curvature.

Q.64	**Which combination of factors would result in the lowest resistance for a conductor?**
Ans	✓ 1. Short length and large cross-sectional area
	✗ 2. Long length and small cross-sectional area
	✗ 3. Short length and small cross-sectional area
	✗ 4. Long length and large cross-sectional area

Q.65	**Equipment such as geysers and air conditioners, compared to light bulbs and fans, require:**
Ans	✗ 1. higher voltage
	✗ 2. less power
	✗ 3. less voltage
	✓ 4. higher power

Q.66	**In a row of 38 students facing north, Sunil is 20^{th} from the left end. If Harsh is 10^{th} to the right of Sunil, what is Harsh's position from the right end of the row?**
Ans	✗ 1. 6^{th}
	✗ 2. 7^{th}
	✗ 3. 8^{th}
	✓ 4. 9^{th}

Q.67	**An electric fan is connected to a 220 V generator. The current is 0.50 A. What is the power used by the fan?**
Ans	✗ 1. 11 Watt
	✗ 2. 440 Watt
	✗ 3. 220 Watt
	✓ 4. 110 Watt

Q.68	Refer to the following number, symbol series and answer the question. Counting to be done from left to right only. (Left) € $ 7 1 5 * 9 % 2 £ 5 $ 6 £ € 8 8 4 6 £ % 8 (Right) How many such symbols are there each of which is immediately preceded by a number and also immediately followed by a number?
Ans	✗ 1. 5
	✓ 2. 4
	✗ 3. 3
	✗ 4. 6

Q.69	A man sold an article for ₹330 by first giving a d% discount on its marked price, and then another discount having the same nominal value (in ₹). If the marked price of the article is ₹1320, then what is the value of d?
Ans	✓ 1. 37.5
	✗ 2. 41.1
	✗ 3. 38.4
	✗ 4. 36.9

Q.70	Seeds that are dispersed by animals often:
Ans	✓ 1. have hooks or edible flesh
	✗ 2. are very small and light weight
	✗ 3. can float easily in water
	✗ 4. have wings or parachutes

Q.71	The selling price of 30 books is equal to the cost price of 45 books. Find the loss or gain percentage.
Ans	✓ 1. 50 % gain
	✗ 2. 50 % loss
	✗ 3. $\frac{100}{15}\%\ loss$
	✗ 4. $\frac{100}{15}\%\ gain$

Q.72	Quwwat-al-islam mosque is located in which of the following cities?
Ans	✗ 1. Hyderabad
	✓ 2. New Delhi
	✗ 3. Sikar
	✗ 4. Ajmer

Q.73	What should come in place of the question mark (?) in the given series? 136 117 122 103 108 89 ?
Ans	✗ 1. 108
	✓ 2. 94
	✗ 3. 70
	✗ 4. 84

Black book

Q.74	**Which of the following statements is true about the physical properties of compounds in a homologous series?**
Ans	✗ 1. They have identical melting and boiling points.
	✓ 2. They have a regular change in melting and boiling points.
	✗ 3. Their boiling points decrease as the number of carbon atoms increase.
	✗ 4. Their physical properties do not change.

Q.75	**Why are danger signals typically red in colour?**
Ans	✓ 1. Red light has a longer wavelength and is scattered the least, making it visible from a distance.
	✗ 2. Red light is more reflective than other colours.
	✗ 3. Red light is easier to produce artificially.
	✗ 4. The colour red is aesthetically pleasing.

Q.76	**What was the name of the movement started in 1927 in Maharashtra, led by Dr. BR Ambedkar to access public resources such as water bodies, temples and schools?**
Ans	✗ 1. Shahada Movement
	✗ 2. Bombay Peasants Revolt
	✗ 3. Kheda Satyagraha
	✓ 4. Mahad Satyagraha

Q.77	**Who is the author of "Postcolonial Elements in Amitav Ghosh's 'The Shadow Lines,'" published in 2018?**
Ans	✗ 1. Arundhati Roy
	✗ 2. Salman Rushdie
	✓ 3. Nivedhaa Nivi
	✗ 4. Amitav Ghosh

Q.78	**Which of the following letter-number clusters will replace the question mark (?) in the given series to make it logically complete?** **NTZ 14, KQW 23, HNT 32, EKQ 41, BHN 50, ?**
Ans	✗ 1. YEK 58
	✗ 2. ZEK 59
	✗ 3. YKK 59
	✓ 4. YEK 59

Q.79	**Two numbers are in the ratio 2 : 4. If the first number is increased by 4 and the second number is decreased by 14, then the ratio becomes 8 : 5. What is the sum of the original two numbers?**
Ans	✗ 1. 41
	✗ 2. 38
	✗ 3. 24
	✓ 4. 36

Q.80	**How do hormonal contraceptives prevent pregnancy?**
Ans	✗ 1. By creating a physical barrier
	✗ 2. By blocking the fallopian tubes
	✗ 3. By increasing sperm production
	✓ 4. By changing the hormonal balance to prevent egg release

Q.81	The balanced equation which shows the decomposition of hydrogen peroxide is:
Ans	✔ 1. $2H_2O_2 \rightarrow 2H_2O + O_2$
	✘ 2. $2HO_2 \rightarrow 2HO + O_2$
	✘ 3. $H_2O_2 \rightarrow 2H_2O + O_2$
	✘ 4. $H_2O_2 \rightarrow H_2O + O_2$

Q.82	If $\dfrac{3x}{1+\dfrac{1}{1+\dfrac{x}{1-x}}} = 12$, then find the value of 'x'.
Ans	✔ 1. 1.6
	✘ 2. 1.4
	✘ 3. 1.2
	✘ 4. 1.8

Q.83	Which of the following best describes a common industrial use of washing soda?
Ans	✘ 1. Fertiliser manufacturing
	✘ 2. Cement production
	✔ 3. Glass manufacturing
	✘ 4. Vinegar production

Q.84	20 ml of NaOH is neutralised by 10 ml of HNO_3. How much NaOH will be required to neutralise 15 ml of HNO_3?
Ans	✘ 1. 20 ml
	✘ 2. 25 ml
	✘ 3. 40 ml
	✔ 4. 30 ml

Q.85	Three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which is the letter-cluster pair that does NOT belong to that group? (Note: The odd one out is not based on the number of consonants/vowels or their positions in the letter-cluster.)
Ans	✔ 1. FD - LK
	✘ 2. FI - EH
	✘ 3. LO - KN
	✘ 4. QT - PS

Q.86	The pattern of the magnetic field lines of a solenoid is similar to that of a:
Ans	✔ 1. bar magnet
	✘ 2. horseshoe magnet
	✘ 3. button magnet
	✘ 4. ring magnet

Q.87	Which of the following received the top honour in the Best Urban Local Body category at the 5th National Water Awards for its innovative water conservation initiatives?
Ans	✘ 1. Pune, Maharashtra
	✘ 2. Indore, Madhya Pradesh
	✔ 3. Surat, Gujarat
	✘ 4. Bhopal, Madhya Pradesh

Black book

Q.88	The volume (in cm^3) of a wire of diameter 56 cm and length 3 m is: $take\ \pi = \frac{22}{7}$
Ans	✗ 1. 739700
	✗ 2. 740200
	✓ 3. 739200
	✗ 4. 739400

Q.89	Mendel had selected garden pea for certain favourable reasons. Which of the following is NOT a reason for his choice required for his experiments?
Ans	✗ 1. They can be self-pollinated and cross-pollinated.
	✗ 2. They produce many offsprings.
	✗ 3. They have easily observable traits.
	✓ 4. They have a long generation time.

Q.90	Which of the following statements is true for a balanced chemical equation?
Ans	✗ 1. The total mass of molecules is unequal on both sides.
	✗ 2. The total number of molecules is the same on both sides.
	✗ 3. The total number of moles is the same on both sides.
	✓ 4. The total number of atoms of each element is the same on both sides.

Q.91	The average score of a cricketer in 20 matches is 40 runs. If his highest score in a match was 78 runs, what is the average of his scores in the remaining 19 matches?
Ans	✗ 1. 40
	✗ 2. 36
	✗ 3. 34
	✓ 4. 38

Q.92	Anmol starts from Point A and drives 23 km towards the west. He then takes a right turn, drives 27 km, turns right and drives 29 km. He then takes a right turn and drives 32 km. He takes a final right turn, drives 6 km and stops at Point P. How far (shortest distance) and towards which direction should he drive in order to reach Point A again? (All turns are 90° turns only unless specified.)
Ans	✗ 1. 6 km to the north
	✓ 2. 3 km to the north
	✗ 3. 5 km to the north
	✗ 4. 4 km to the north

Q.93	What is formed when sodium sulfate reacts with barium chloride in a double displacement reaction?
Ans	✗ 1. Sodium sulfate and barium chloride
	✗ 2. Sodium chloride and barium hydroxide
	✓ 3. Sodium chloride and barium sulfate
	✗ 4. Sodium hydroxide and barium chloride

Q.94	If 2 is added to each odd digit and 1 is subtracted from each even digit in the number 2687531, then how many digits will appear more than once in the new number thus formed?
Ans	✗ 1. Three
	✗ 2. One
	✗ 3. Four
	✓ 4. Two

Black

Q.95	Which of the following ratio is smallest?
Ans	✗ 1. 28 : 39
	✓ 2. 20 : 51
	✗ 3. 22 : 47
	✗ 4. 21 : 49

Q.96	Which of the following letter-clusters should replace # and % so that the pattern and relationship followed between the letter-cluster pair on the left side of :: is the same as that on the right side of ::? # : RXT :: FLH : %
Ans	✗ 1. # = OGT, % = IKH
	✓ 2. # = OUQ, % = IOK
	✗ 3. # = OUP, % = KIU
	✗ 4. # = GHT, % = INY

Q.97	An object is placed 12 cm in front of a convex mirror with a focal length of 8 cm. What is the image distance (v)?
Ans	✓ 1. +4.8 cm
	✗ 2. −4.8 cm
	✗ 3. +20 cm
	✗ 4. −20 cm

Q.98	₹4800 were divided among P, Q and R, such that 6 times of P = 3 times of Q = 8 times of R. Find the share of R.
Ans	✓ 1. ₹960
	✗ 2. ₹1068
	✗ 3. ₹815
	✗ 4. ₹1034

Q.99	Suppose a gardener wants to plant pea which should be of the dwarf varieties. What do you suggest for the choice of the parent plant seeds by the gardener?
Ans	✗ 1. All seeds should be of tall varieties.
	✗ 2. Any kind of seed can be used.
	✓ 3. All seeds should be of dwarf varieties.
	✗ 4. All seeds should be of mixed varieties.

Q.100	Select the term from among the given options that can replace the question mark (?) in the following series. PKI 23, MHF 31, JEC 47, GBZ 79, DYW 143, ?
Ans	✓ 1. AVT 271
	✗ 2. AYT 271
	✗ 3. AVT 270
	✗ 4. UVT 271

Black book

रेल भर्ती बोर्ड / RAILWAY RECRUITMENT BOARDS
सी ई एन आर आर बी - ०३/२०२४ - CEN RRB - 03/2024

Test Center Name	iON Digital Zone iDZ Asansol
Test Date	17/12/2024
Test Time	12:45 PM - 2:15 PM
Subject	RRB JE DMS CMA CS MS

*** Note**
Correct Answer will carry 1 mark per Question.
Incorrect Answer will carry 1/3 Negative mark per Question.

1. Options shown in green color with a tick icon are correct.
2. Chosen option on the right of the question indicates the option selected by the candidate.

Section : **RRB JE, DMS, CMA, CS, MS CBT-1**

Q.1	**Which of the following is a primary reason why all multi-cellular organisms do not reproduce by fragmentation?**
Ans	✗ 1. Their cells are loosely organised.
	✗ 2. They are unicellular.
	✗ 3. They have a random arrangement of cells.
	✓ 4. They have specialised cells organised into tissues and organs.

Q.2	**Which of the following is true about asexual reproduction?**
Ans	✓ 1. It results in offspring genetically identical to the parent.
	✗ 2. It requires fertilisation.
	✗ 3. It involves two parent organisms.
	✗ 4. It requires complex reproductive organs.

Q.3	**GJBF is related to ILDH in a certain way based on the English alphabetical order. In the same way, JMEI is related to LOGK. To which of the following is MPHL related, following the same logic?**
Ans	✗ 1. ORNJ
	✗ 2. ROJN
	✗ 3. RONJ
	✓ 4. ORJN

Q.4	**For a concave mirror, where is the centre of curvature located relative to the mirror?**
Ans	✗ 1. At the mirror's surface
	✗ 2. Behind the mirror
	✓ 3. In front of the mirror
	✗ 4. At the mirror's focal point

Q.5	**A number when increased by 50 %', gives 2790. The number is:**
Ans	✗ 1. 5580
	✗ 2. 3720
	✓ 3. 1860
	✗ 4. 930

Q.6	In which language was the classic Indian novel 'Chandrakanta' originally written?
Ans	✗ 1. Bengali
	✓ 2. Hindi
	✗ 3. Tamil
	✗ 4. Urdu

Q.7	Based on the English alphabetical order, three of the following four letter-clusters are alike in a certain way and thus form a group. Which letter-cluster DOES NOT belong to that group? (Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)
Ans	✓ 1. ENPU
	✗ 2. KSVA
	✗ 3. CKNS
	✗ 4. HPSX

Q.8	What should come in place of the question mark (?) in the given series? 160 151 141 130 118 ?
Ans	✓ 1. 105
	✗ 2. 101
	✗ 3. 95
	✗ 4. 91

Q.9	Which of the following is NOT a homologous series?
Ans	✗ 1. C_3H_7OH , C_4H_9OH , $C_5H_{11}OH$, $C_6H_{11}OH$
	✗ 2. CH_4 , C_2H_6 , C_3H_8 , C_4H_{10}
	✗ 3. C_2H_2 , C_2H_4 , C_3H_6 , C_4H_8
	✓ 4. C_2H_4 , C_2H_6 , C_3H_6 , C_4H_8

Q.10	This question is based on the five, four-digit numbers given below. (Left) 5479 3126 6785 9254 1630 (Right) (Example: 697 – First digit = 6, second digit = 9 and third digit = 7) NOTE: All the operations to be performed from left to right. What will be the resultant if the fourth digit of the second-greatest number is added to the third digit of the smallest number?
Ans	✗ 1. 14
	✗ 2. 12
	✓ 3. 8
	✗ 4. 10

Q.11	A double displacement reaction typically involves the exchange of:
Ans	✓ 1. ions
	✗ 2. electrons
	✗ 3. protons
	✗ 4. neutrons

Q.12	Based on the English alphabetical order, three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which letter-cluster pair DOES NOT belong to that group? (Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)
Ans	✔ 1. VW – XZ
	✘ 2. JL – OQ
	✘ 3. DF – IK
	✘ 4. MO – RT

Q.13	If x is inversely proportional to y, and y = 6 when x = 7, find the value of x, when y = 64.
Ans	✔ 1. $\frac{21}{32}$
	✘ 2. $\frac{23}{35}$
	✘ 3. $\frac{21}{33}$
	✘ 4. $\frac{22}{33}$

Q.14	The ratio of the lengths of two corresponding sides of two similar triangles is 17 : 13. The ratio of the areas of these two triangles, in the order mentioned, is:
Ans	✔ 1. 289 : 169
	✘ 2. $17\sqrt{17} : 13$
	✘ 3. 17 : 13
	✘ 4. 290 : 170

Q.15	In a certain code language, 'hat tie watch' is coded as 'zm ph mt', 'belt bow tie' is coded as 'la oe zm', 'bow watch clip' is coded as 'oe mt dy'. What is the code for 'hat' in that language? (Note: All the codes are two-letter coded only.)
Ans	✔ 1. ph
	✘ 2. oe
	✘ 3. zm
	✘ 4. mt

Q.16	Which of the following ratio is smallest?
Ans	✔ 1. 19 : 60
	✘ 2. 29 : 55
	✘ 3. 15 : 47
	✘ 4. 18 : 42

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Q.17	When a metal and sulphuric acid react with each other, metal displaces hydrogen, which is higher in the reactivity series. Identify the metal for which the bubbling of hydrogen gas will be the fastest.
Ans	✔ 1. Magnesium
	✘ 2. Iron
	✘ 3. Aluminium
	✘ 4. Zinc

Q.18	35 men can do a piece of work in 48 days. The number of men required to complete the same work in 21 days is:
Ans	✘ 1. 77
	✘ 2. 72
	✔ 3. 80
	✘ 4. 79

Q.19	If the resistance in a circuit is increased while the voltage remains constant, the current will _____.
Ans	✘ 1. double
	✘ 2. increase
	✔ 3. decrease
	✘ 4. remain constant

Q.20	Two sets of numbers are given below. In each set of numbers, certain mathematical operation(s) on the first number result(s) in the second number. Similarly, certain mathematical operation(s) on the second number result(s) in the third number and so on. Which of the given options follows the same set of operations as in the given sets? (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g. 13 – Operations on 13 such as adding / subtracting /multiplying to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.) 12-60-120-130; 14-70-140-150
Ans	✘ 1. 15-75-150-140
	✘ 2. 13-65-130-120
	✘ 3. 11-55-110-130
	✔ 4. 16-80-160-170

Q.21	Find the simple interest (in closest integral ₹) on ₹4000 at 5.25% per annum rate of interest for the period from 5 February 2024 to 6 April 2024
Ans	✘ 1. 36
	✔ 2. 35
	✘ 3. 34
	✘ 4. 33

Q.22	Two taps can fill a cistern in 2 hours and 53 hours respectively. A third tap can empty it in 53 hours. How long (in hours) will it take to fill the empty cistern, if all of them are opened together?
Ans	✘ 1. 4
	✘ 2. 3
	✔ 3. 2
	✘ 4. 5

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Q.23	The average price of three items of furniture is Rs 16440. If their prices are in the ratio 3:5:7, the price of the cheapest item (in Rs) is
Ans	✔ 1. 9864
	✘ 2. 3288
	✘ 3. 5480
	✘ 4. 7672

Q.24	If the distance between A and B is 1253 Km. From A, Chaman goes to B with speed 93 km/h and return to A with the speed 95 km/h. Find the average speed of Chaman. (rounded off to two decimal place)
Ans	✔ 1. 93.99 km/h
	✘ 2. 90.46 km/h
	✘ 3. 103.98 km/h
	✘ 4. 94.47 km/h

Q.25	If '×' means 'addition', '+' means 'subtraction', '−' means 'division' and '÷' means 'multiplication', then what will come in place of the question mark (?) in the following equation? 14 + 1 ÷ 7 × 32 − 8 = ?
Ans	✘ 1. 12
	✔ 2. 11
	✘ 3. 14
	✘ 4. 13

Q.26	What is the molecular formula of washing soda?
Ans	✘ 1. $NaHCO_3$
	✔ 2. $Na_2CO_3 \cdot 10H_2O$
	✘ 3. Na_2CO_3
	✘ 4. NaCl

Q.27	Correctly match the following Biosphere Reserves to their respective states. Biosphere Reserves States 1. Nokrek a. Meghalaya 2. Panna b. Madhya Pradesh 3. Manas c. Assam
Ans	✔ 1. 1-a, 2-b, 3-c
	✘ 2. 1-a, 2-c, 3-b
	✘ 3. 1-c, 2-b, 3-a
	✘ 4. 1-b, 2-a, 3-c

Q.28	The solution of the system of linear equations is: x + y + z = 6, 2x − y + 3z = 14, −x + 2y −z = −2
Ans	✘ 1. $x=\frac{-5}{3}, y=\frac{5}{3}, z=-6$
	✘ 2. $x=\frac{5}{3}, y=\frac{-5}{3}, z=6$
	✘ 3. $x=\frac{4}{3}, y=\frac{-4}{3}, z=5$
	✔ 4. $x=\frac{-4}{3}, y=\frac{4}{3}, z=6$

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Q.29	In a row of 25 students facing north, Manoj is 15^{th} from the right end. If Harish is 10^{th} to the left of Manoj, what is Harish's position from the left end of the row?
Ans	✔ 1. 1^{st}
	✘ 2. 2^{nd}
	✘ 3. 3^{rd}
	✘ 4. 4^{th}

Q.30	What is the pH of a solution containing significant concentrations of H^+ ions?
Ans	✘ 1. 7
	✔ 2. Less than 7
	✘ 3. Greater than 7
	✘ 4. Cannot be determined

Q.31	With respect to Quad Leaders' Summit, which of the following statements is/are correct? 1) The Quad Leaders' Summit was held in Wilmington (US) in 2024. 2) The year 2024 marks 22 years since the formation of the grouping. 3) India will host the 2025 Quad Leaders Summit.
Ans	✘ 1. 1 and 2 only
	✔ 2. 1 and 3 only
	✘ 3. 1 only
	✘ 4. 2 and 3 only

Q.32	How many members of the Rajya Sabha are nominated by the President of India?
Ans	✘ 1. 15
	✘ 2. 8
	✘ 3. 10
	✔ 4. 12

Q.33	What should come in place of the question mark (?) in the given series? 78 79 83 92 108 ?
Ans	✘ 1. 132
	✘ 2. 134
	✔ 3. 133
	✘ 4. 135

Q.34	A shopkeeper lists the price of a fan at 25% above its cost price and offers a 10% discount on its list price. If he earns a profit of ₹117, then what is the list price (in ₹) of the fan?
Ans	✘ 1. 1346
	✔ 2. 1170
	✘ 3. 1308
	✘ 4. 896

Q.35	Which of the following is true for a balanced chemical equation?
Ans	✔ 1. The total number of atoms for each element is the same on both sides of the equation.
	✘ 2. The products have more atoms than the reactants.
	✘ 3. The mass of reactants is always greater than the mass of products.
	✘ 4. The number of molecules on each side is always equal.

Black

Q.36	Which of the following statements is correct regarding magnets?
Ans	✔ 1. A magnet is a dipole with north and south poles.
	✘ 2. A magnet produces magnetic as well as electric fields.
	✘ 3. A magnet can attract an electron.
	✘ 4. A magnet can have either north or south pole.

Q.37	The difference in the age of two people is 24 years. If 6 years ago, the older of the two was four times as old as the younger one, then find their present ages.
Ans	✘ 1. 15 and 39 years
	✘ 2. 12 and 36 years
	✘ 3. 16 and 40 years
	✔ 4. 14 and 38 years

Q.38	What is the sum of the numbers between 250 and 450, such that when it is divided by 8, 12 and 18, it leaves no remainder?
Ans	✘ 1. 1008
	✔ 2. 1080
	✘ 3. 936
	✘ 4. 1152

Q.39	In surgical procedures for contraception in males, sperm transfer gets prevented if which of the following is blocked?
Ans	✘ 1. Ovary
	✘ 2. Fallopian tubes
	✘ 3. Testes
	✔ 4. Vas deferens

Q.40	What develops into fruit after fertilisation?
Ans	✘ 1. Style
	✘ 2. Stigma
	✘ 3. Anther
	✔ 4. Ovary

Q.41	What should come in place of the question mark (?) in the given series based on the English alphabetical order? TUR FGD RSP DEB ?
Ans	✘ 1. NPQ
	✔ 2. PQN
	✘ 3. NQP
	✘ 4. PNQ

Q.42	What is the average of all the natural numbers from 1 to 95?
Ans	✘ 1. 48.5
	✘ 2. 49
	✔ 3. 48
	✘ 4. 47.5

Q.43	Which status was conferred upon Shipping Corporation of India (SCI) by the Government of India in August 2008?
Ans	✗ 1. Miniratna
	✗ 2. Dashratna
	✗ 3. Maharatna
	✓ 4. Navratna

Q.44	When the pH of rainwater falls below 5.6, it is commonly referred to as:
Ans	✗ 1. alkaline rain
	✓ 2. acid rain
	✗ 3. mineral rain
	✗ 4. hard water

Q.45	Manur starts from Point A and drives 12 km towards the East. He then takes a right turn, drives 11 km, turns right and drives 13 km. He then takes a right turn and drives 17 km. He takes a final right turn, drives 1 km and stops at Point P. How far (shortest distance) and towards which direction should he drive in order to reach Point A again? (All turns are 90 degrees turns only unless specified)
Ans	✗ 1. 2 km to the South
	✓ 2. 6 km to the South
	✗ 3. 3 km to the South
	✗ 4. 5 km to the South

Q.46	Refer to the following number, symbol series and answer the question. Counting to be done from left to right only. (Left) 3 8 9 5 £ 6 3 @ 3 % @ 7 * 1 # 2 6 9 2 7 & £ (Right) How many such symbols are there each of which is immediately preceded by a number and also immediately followed by a number?
Ans	✓ 1. 4
	✗ 2. 6
	✗ 3. 3
	✗ 4. 5

Q.47	What is the primary reason for a central bank to increase the reserve requirement ratio of commercial banks?
Ans	✓ 1. To decrease the money supply in the economy
	✗ 2. To increase the money supply in the economy
	✗ 3. To decrease the profitability of commercial banks
	✗ 4. To encourage banks to lend more

Q.48	Simplify the given expression. $(\sin A + \text{cosec } A)^2 + (\cos A - \sec A)^2 + 3$
Ans	✗ 1. $\tan^2 A + \cot^2 A$
	✗ 2. $3 + \tan^2 A + \cot^2 A$
	✓ 3. $6 + \tan^2 A + \cot^2 A$
	✗ 4. $1 + \tan^2 A + \cot^2 A$

Q.49	Which of the following statements best describes what happens in a double displacement reaction?
Ans	✗ 1. Two elements combine to form a compound.
	✗ 2. A compound breaks down into simpler substances.
	✗ 3. Electrons are transferred between atoms.
	✓ 4. Ions in two compounds switch places to form two new compounds.

Q.50	A man sold an article for ₹533 by first giving a d% discount on its marked price, and then another discount having the same nominal value (in ₹). If the marked price of the article is ₹1025, then what is the value of d?
Ans	✗ 1. 22
	✓ 2. 24
	✗ 3. 29
	✗ 4. 21

Q.51	B, C, E, F and H have different heights. B is taller than C. Only E is shorter than F. H is taller than B. How many people are taller than C?
Ans	✓ 1. Two
	✗ 2. One
	✗ 3. Four
	✗ 4. Three

Q.52	P is the daughter of Q's sister R. S is the wife of Q and T is the son of S. How is P related to T?
Ans	✗ 1. Sister's daughter
	✗ 2. Father's daughter
	✗ 3. Father's mother
	✓ 4. Father's sister's daughter

Q.53	What is one of the main attractions of ‘Mamallapuram’ apart from the dance festival?
Ans	✗ 1. Modern art galleries
	✗ 2. Local handicrafts
	✗ 3. Wildlife sanctuaries
	✓ 4. Architectural beauty of temples

Q.54	Shalini travels a distance of 270 km with speed of 54 km/h and 300 km with 30 km/h by her car. Find the average speed (in km/h) of Shalini.
Ans	✗ 1. 47
	✓ 2. 38
	✗ 3. 44
	✗ 4. 43

Q.55	If the refractive index of water is 1.33, then the speed of light in water is approximately _____.
Ans	✗ 1. 3×10^8 m/s
	✗ 2. 1.5×10^8 m/s
	✓ 3. 2.26×10^8 m/s
	✗ 4. 4×10^8 m/s

Q.56	In a certain code, 'red blue green' is coded as 'dy ph mt', 'blue violet black' is coded as 'lp ph st' and 'black red white' is coded as 'st bq dy'. All the codes are two-letter codes only. What is white coded as?
Ans	✗ 1. st
	✗ 2. ph
	✗ 3. dy
	✓ 4. bq

Q.57	What is the result when sodium chloride and silver nitrate are mixed in a double displacement reaction?
Ans	✗ 1. Formation of water
	✓ 2. Formation of a precipitate
	✗ 3. Formation of a gas
	✗ 4. Formation of a salt

Q.58	If the interest earned during the 2nd year on a certain sum is ₹3726, and the rate of interest is 15% per annum compounded annually, then the sum is:
Ans	✓ 1. ₹21600
	✗ 2. ₹20885
	✗ 3. ₹20835
	✗ 4. ₹21185

Q.59	If the object is placed beyond the center of curvature (C) in front of a concave mirror, the image formed will be _____.
Ans	✗ 1. virtual, upright and diminished
	✗ 2. real, inverted and enlarged
	✗ 3. virtual, upright and enlarged
	✓ 4. real, inverted and diminished

Q.60	The special reproductive structures in fungi like Rhizopus, which germinate to form new individuals, are called:
Ans	✗ 1. Anthers
	✓ 2. Spores
	✗ 3. Gemmules
	✗ 4. Pollens

Q.61	KL91 is related to CD66 in a certain way. In the same way, MN81 is related to EF56. To which of the following is OP71 related, following the same logic?
Ans	✗ 1. HG46
	✓ 2. GH46
	✗ 3. HG56
	✗ 4. GH56

Q.62	Find the HCF of 84, 126 and 210.
Ans	✗ 1. 70
	✓ 2. 42
	✗ 3. 14
	✗ 4. 21

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Q.63	What are the number of chromosomes in a human male germ cell?
Ans	✗ 1. 46 pairs of Chromosomes
	✓ 2. 23 Chromosomes
	✗ 3. 23 pairs of Chromosomes
	✗ 4. 46 Chromosomes

Q.64	P, Q, R, S, T and U are sitting around a circular table facing the centre. U sits third to the left of T. R sits second to the right of Q. Q is not the immediate neighbour of T. P is not the immediate neighbour of R. Who sits third to the left of Q?
Ans	✗ 1. P
	✗ 2. T
	✓ 3. S
	✗ 4. U

Q.65	The numbers of children in 10 families of a locality are 2, 1, 3, 4, 2, 3, 5, 1, 1, 3. The number of children per family is:
Ans	✗ 1. 3
	✗ 2. 2.8
	✓ 3. 2.5
	✗ 4. 2.4

Q.66	The magnetic field lines of a bar magnet may NOT be drawn using:
Ans	✗ 1. iron filings
	✗ 2. a magnetic compass
	✓ 3. wood particles
	✗ 4. another bar magnet

Q.67	A wire of given material having length L and area of cross-section A has a resistance of 4 Ω. The resistance of another wire of the same material having length L/2 will be:
Ans	✗ 1. 4 Ω
	✗ 2. 1 Ω
	✗ 3. 8 Ω
	✓ 4. 2 Ω

Q.68	Which electrical appliance helps preserve food by maintaining low temperatures?
Ans	✗ 1. Toaster
	✗ 2. Electric kettle
	✗ 3. Microwave
	✓ 4. Refrigerator

Q.69	What is the difference between baking powder and baking soda?
Ans	✗ 1. Baking powder is a mixture of baking soda and hydrochloric acid.
	✗ 2. Baking soda is a mixture of baking powder and tartaric acid.
	✗ 3. Baking soda is a mixture of baking powder and hydrochloric acid.
	✓ 4. Baking powder is a mixture of baking soda and tartaric acid.

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Q.70	Find the value of $8.25 \times 6 - 3.14 \times 7 + 2.758$ of $2.5 - 4.365 \times 5$.
Ans	✔ 1. 12.59
	✘ 2. 11.82
	✘ 3. 12.97
	✘ 4. 11.05

Q.71	The average of four consecutive odd numbers is 36. What is the greatest of these numbers?
Ans	✘ 1. 41
	✘ 2. 43
	✔ 3. 39
	✘ 4. 37

Q.72	Which of the following diseases can be prevented by using a mechanical barrier contraceptive method?
Ans	✔ 1. AIDS
	✘ 2. Typhoid
	✘ 3. TB
	✘ 4. Malaria

Q.73	If the mean of the following data is 40, then the value of X is:

xi	10	25	70	85
fi	21	X	22	35

Ans	✘ 1. 134
	✘ 2. 112
	✔ 3. 107
	✘ 4. 120

Q.74	Which of the following statements about AIDS is FALSE?
Ans	✘ 1. AIDS affects the immune system of the body.
	✘ 2. AIDS is caused by the HIV virus.
	✔ 3. AIDS can be transmitted through mosquito bites.
	✘ 4. AIDS can be prevented by practising safe sex.

Q.75	The population of a town in 1927 was 232300. If its population increased in two successive decades by 30% in each decade, the population of the town in 1947 was:
Ans	✘ 1. 392592
	✘ 2. 392583
	✔ 3. 392587
	✘ 4. 392585

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Q.76	**A question is given, followed by two statements labelled I and II. Identify which of the statements is/are sufficient to answer the question.** **Q. A, B, C, D and E are sitting in a straight line facing north. Who sits on the extreme left end?** **(I) A sits fourth to the right of E.** **(II) Exactly 1 person sits between B and C.**
Ans	✗ 1. Both Statements I and II put together (and not independently) are sufficient to answer the question.
	✗ 2. Data in Statement II alone is sufficient to answer the question, while data in Statement I is not.
	✗ 3. Both Statements I and II put together are not sufficient to answer the question.
	✓ 4. Data in Statement I alone is sufficient to answer the question, while data in Statement II is not.

Q.77	**Besides being a barrier method of contraception, condoms also serve which of the following purposes?**
Ans	✗ 1. Help in transmission of STDs such as gonorrhoea
	✓ 2. Prevent transmission of STDs such as gonorrhoea
	✗ 3. Prevent diseases that spread through skin-to-skin contact
	✗ 4. Decrease sexual desire

Q.78	**Hindustan Socialist Republican Association (HSRA) was founded in 1928 in which of the following cities?**
Ans	✗ 1. Pune
	✗ 2. Calcutta
	✗ 3. Lahore
	✓ 4. Delhi

Q.79	**Which of the following statements is true regarding the refractive index?**
Ans	✓ 1. Refractive index of water is always greater than 1.
	✗ 2. Refractive index depends only on the speed of light in vacuum.
	✗ 3. Refractive index of glass is less than 1.
	✗ 4. Refractive index of a given medium is independent of the wavelength of the light.

Q.80	**Which of the following letter-clusters should replace # and % so that the pattern and relationship followed between the letter-cluster pair on the left side of :: is the same as that on the right side of ::?** **# : DGJ :: EHK : %**
Ans	✗ 1. # = WXC, % = LOR
	✓ 2. # = WZC, % = LOR
	✗ 3. # = WZC, % = LOP
	✗ 4. # = MZC, % = LOR

Q.81	**Each of D, E, F, K, L, M and N has an exam on a different day of a week, starting from Monday and ending on Sunday of the same week.** **N has exam on Thursday. L has an exam two days before N. Only four people have exams between F and L. M has an exam on one of the days after L. D has an exam on the day immediately before E.** **How many people have exams between E and M?**
Ans	✗ 1. Four
	✓ 2. Two
	✗ 3. Three
	✗ 4. One

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Q.82	Let O be the incentre of a triangle PQR and S be a point on the side QR such that OS⊥ QR. If ∠QOS = 15°, then ∠PQR =?
Ans	✗ 1. 75°
	✗ 2. 65°
	✗ 3. 130°
	✓ 4. 150°

Q.83	In Delhi Sultanate, the holder of an 'iqta', who also worked as the administrative head of his 'iqta', was designated as _____.
Ans	✓ 1. muqti
	✗ 2. qazi
	✗ 3. ariz
	✗ 4. wazir

Q.84	**Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusion(s) logically follow(s) from the statements.** **Statements:** **All waters are liquids.** **All liquids are juices.** **All juices are fruits.** **Conclusions:** **(I) All waters are fruits.** **(II) Some fruits are liquids.**
Ans	✗ 1. Only conclusion (II) follows.
	✗ 2. Only conclusion (I) follows.
	✗ 3. Neither conclusion (I) nor (II) follows.
	✓ 4. Both conclusions (I) and (II) follow.

Q.85	The radius of the base of a right circular cone is 21 m and its curved surface area is 1914 m^2. Find the volume (in m^3) of the cone.
Ans	✗ 1. 9549
	✓ 2. 9240
	✗ 3. 10250
	✗ 4. 8549

Q.86	Which of the following Ministries launched the electric mobility promotion scheme in March 2024 to provide short term support to Electric Vehicles?
Ans	✗ 1. Ministry of Environment, Forest and Climate Change
	✗ 2. Ministry of Corporate Affairs
	✓ 3. Ministry of Heavy Industries
	✗ 4. Ministry of Road Transport and Highways

Q.87	If 'A' stands for '÷', 'B' stands for 'x', 'C' stands for '+' and 'D' stands for '-', then what will be come in place of the question mark (?) in the following equation? 30 C 48 D 36 B 50 A 20 = ?
Ans	✓ 1. −12
	✗ 2. −11
	✗ 3. −14
	✗ 4. −10

Black

Q.88	The number of 176-Ω resistors (in parallel) required to carry 5 A on a 220-V line is:
Ans	✗ 1. 2
	✗ 2. 8
	✓ 3. 4
	✗ 4. 16

Q.89	Students and professors of which IIT have developed an innovative fire rescue drone in June 2024?
Ans	✗ 1. IIT Delhi
	✗ 2. IIT Madras
	✓ 3. IIT Dharwad
	✗ 4. IIT Mandi

Q.90	A six-digit number is divisible by 91. If 143 is added to this number, the resulting number is divisible by which of the following number?
Ans	✗ 1. 91
	✗ 2. 7
	✓ 3. 13
	✗ 4. 11

Q.91	15 is related to 35 following a certain logic. Following the same logic, 21 is related to 49. To which of the given options is 27 related, following the same logic? (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g. 13 – Operations on 13 such as adding/subtracting/multiplying to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)
Ans	✓ 1. 63
	✗ 2. 69
	✗ 3. 65
	✗ 4. 51

Q.92	If A:B = 1 : 3, B:C = 4 : 3 and C : D = 6 : 7, then A:B:C:D is
Ans	✗ 1. 6:24:18:21
	✗ 2. 8:24:16:21
	✗ 3. 8:22:18:21
	✓ 4. 8:24:18:21

Q.93	Which of the following rights is NOT part of the Right to Life under Article 21 of the Indian Constitution?
Ans	✗ 1. Right to Privacy
	✗ 2. Right to Free Legal Aid
	✓ 3. Right to Property
	✗ 4. Right to Livelihood

Q.94	Which of the following Articles of the Indian Constitution states that there shall be a Legislative Assembly for the National Capital Territory and the seats in such Assembly shall be filled by members chosen by direct election from territorial constituencies in the National Capital Territory?
Ans	✗ 1. Article 239 B
	✓ 2. Article 239 AA
	✗ 3. Article 239 AB
	✗ 4. Article 239A

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Q.95	What should come in place of the question mark (?) in the given series based on the English alphabetical order? FMK HOM JQO LSQ ?
Ans	✗ 1. NUR
	✗ 2. NVR
	✗ 3. NVS
	✓ 4. NUS

Q.96	Which of the following statements is INCORRECT about the Annual Financial Statement 2024-25? 1) The Budget 2024-25 will focus on four castes. 2) 1 crore farmers across the country will be initiated into natural farming, supported by certification and branding in the next 2 years. 3) 20,000 need-based bio-input resource centres to be established. 4) 1,000 Industrial Training Institutes will be upgraded in hub and spoke arrangements with outcome orientation.
Ans	✗ 1. 1 only
	✓ 2. 3 only
	✗ 3. 4 only
	✗ 4. 2 only

Q.97	Kapil Parmar created history by securing India's first-ever medal in which game at the Paralympic Games 2024?
Ans	✓ 1. Judo
	✗ 2. Shooting
	✗ 3. Fencing
	✗ 4. Table Tennis

Q.98	Mendel studied traits such as flower colour and seed shape in pea plants. These traits are called as:
Ans	✗ 1. genetic codes
	✗ 2. dominant characteristics
	✗ 3. progeny units
	✓ 4. visible characters

Q.99	The sum of the ages of Ram and Ramesh is 48 years. Four years ago the age of Ram was three times the age of Ramesh. What will be the age of Ramesh five years from now?
Ans	✗ 1. 18 years
	✗ 2. 21 years
	✓ 3. 19 years
	✗ 4. 14 years

Q.100	Amit purchased 10 kg of rice at the rate of ₹35 per kg and 39 kg of rice at ₹44 per kg. He sold the mixture at the rate of ₹42 per kg. Find his loss (in ₹).
Ans	✗ 1. 3
	✗ 2. 13
	✓ 3. 8
	✗ 4. 16

Black book

रेल भर्ती बोर्ड / RAILWAY RECRUITMENT BOARDS

सी ई एन आर आर बी - ०३/२०२४ - CEN RRB - 03/2024

Test Center Name	Our Little Angels Home
Test Date	17/12/2024
Test Time	4:30 PM - 6:00 PM
Subject	RRB JE DMS CMA CS MS

*** Note**
Correct Answer will carry 1 mark per Question.
Incorrect Answer will carry 1/3 Negative mark per Question.

1. Options shown in green color with a tick icon are correct.
2. Chosen option on the right of the question indicates the option selected by the candidate.

Section : **RRB JE, DMS, CMA, CS, MS CBT-1**

Q.1 At which of the following points does each firm employ labour?

Ans
✗ 1. Each firm employs labour up to the point where the marginal revenue product of labour minus the wage rate.

✓ 2. Each firm employs labour up to the point where the marginal revenue product of labour equals the wage rate.

✗ 3. Each firm employs labour up to the point where the marginal cost of labour equals the wage rate.

✗ 4. Each firm employs labour up to the point where the marginal revenue product of labour multiplies the wage rate.

Q.2 In which of the following cases did the Supreme Court of India enunciate the 'Doctrine of Basic Structure'?

Ans
✗ 1. Golaknath case

✗ 2. AK Gopalan case

✗ 3. Menka Gandhi case

✓ 4. Keshvanand Bharti case

Q.3 Which of the following materials will have the least resistance at room temperature?

Ans
✗ 1. Nichrome

✗ 2. Aluminum

✗ 3. Iron

✓ 4. Copper

Q.4 Which Article of the Indian Constitution permits the Supreme Court to review its judgement or order?

Ans
✓ 1. Article 137

✗ 2. Article 138

✗ 3. Article 132

✗ 4. Article 135

Q.5 What is the role of chlorine gas in the preparation of bleaching powder?

Ans
1. It is used as a catalyst for the reaction.
2. It reacts with dry slaked lime to form bleaching powder.
3. It is used to neutralise calcium hydroxide.
4. It reacts with water to produce hydrogen peroxide.

Q.6 What should come in place of the question mark (?) in the given series?

86 78 64 56 42 34 ?

Ans
1. 20
2. 22
3. 26
4. 28

Q.7 In which year was 'Heirloom Treasures: The Cultural Tapestry of India: A Compilation of Selected Articles from India Beckons: Volume 1,' by Arunima Hoskote, published?

Ans
1. 2021
2. 2018
3. 2019
4. 2020

Q.8 Pooja and Ritu invest in a business in the ratio 4 : 1. If total profit is Rs. 1480, then what is difference between the profit (in Rs.) of Pooja and Ritu?

Ans
1. 988
2. 938
3. 888
4. 788

Q.9 A car rental company rents small cars at $50 per day and large cars at $80 per day. If a total of 13 cars were rented for $920 in one day, how many large cars were rented?

Ans
1. 4
2. 11
3. 9
4. 6

Q.10 India has reduced the windfall tax on crude oil to ₹_____ per metric tonne from ₹4,600, effective 17 August 2024.

Ans
1. 1,800
2. 3,600
3. 2,600
4. 2,100

Q.11 If two parallel lines are cut by a transversal, and one pair of the corres

Ans
1. 35
2. 45
3. 40
4. 30

Q.12 A homologous series is a group of organic compounds that have:

Ans
- ✗ 1. the same structural formula
- ✓ 2. the same functional group but differ by a CH_2 group
- ✗ 3. the same molecular formula
- ✗ 4. no relation to each other

Q.13 When an aqueous solution of potassium iodide reacts with lead nitrate, what type of product is formed?

Ans
- ✓ 1. Lead iodide (precipitate)
- ✗ 2. Sodium nitrate
- ✗ 3. Lead chloride
- ✗ 4. Lead nitrate

Q.14 What is the mean of the following distribution?

Marks	13	23	51	61	96
No. of Students	51	34	62	87	17

Ans
- ✗ 1. 72
- ✗ 2. 37
- ✓ 3. 46
- ✗ 4. 34

Q.15 The angle of elevation of a tower from a point which is at a distance o of the tower. (use $\sqrt{3} = 1.73$)

Ans
- ✗ 1. 68 m
- ✗ 2. 56.37 m
- ✓ 3. 76.12 m
- ✗ 4. 48 m

Q.16 Which of the following letter-clusters should replace # and % so that the pattern and relationship followed between the letter-cluster pair on the left side of :: is the same as that on the right side of ::?

 # : GJM :: FIL : %

Ans
- ✗ 1. # = YAD, % = ORU
- ✗ 2. # = XAD, % = ORP
- ✓ 3. # = XAD, % = ORU
- ✗ 4. # = XAD, % = MRU

Q.17 The LCM of two numbers is seven times of their HCF. If the product of two numbers is 448, then find the difference between LCM and HCF.

Ans
- ✗ 1. 54
- ✗ 2. 42
- ✗ 3. 30
- ✓ 4. 48

Q.18 Suman invested a sum of ₹3500 at 20% per annum compound interest, componded annually. If she received an amount of ₹6048 after n years, the value of n is:

Ans
✗ 1. 2
✓ 2. 3
✗ 3. 4
✗ 4. 2.6

Q.19 If the distance between A and B is 1089 Km. From A, Vishal goes to B with speed 104 km/h and return to A with the speed 125 km/h. Find the average speed of Vishal. (rounded off to two decimal place)

Ans
✗ 1. 117.44 km/h
✓ 2. 113.54 km/h
✗ 3. 111.79 km/h
✗ 4. 120.89 km/h

Q.20 The measure of how much a material resists the flow of charges is known as:

Ans
✗ 1. current
✓ 2. resistivity
✗ 3. power generated
✗ 4. potential difference

Q.21 O, P, Q, R, S and T are sitting around a circular table facing the centre. P sits second to the left of T. Q is the immediate neighbour of P and R. S is not the immediate neighbour of R. Who sits to the immediate left of R?

Ans
✗ 1. S
✗ 2. Q
✓ 3. O
✗ 4. T

Q.22 What will come in the place of the question mark (?) in the following equation, if '+' and '−' are interchanged and '×' and '÷' are interchanged?

11 + 37 − 5 × 40 ÷ 24 = ?

Ans
✗ 1. −22
✗ 2. −21
✗ 3. −25
✓ 4. −23

Q.23 Find the simple interest (in closest integral ₹) on ₹4000 at 5.25% per annum rate of interest for the period from 3 February 2024 to 4 April 2024

Ans
✓ 1. 35
✗ 2. 33
✗ 3. 34
✗ 4. 36

Q.24 A man sold an article for ₹687 by first giving a d% discount on its marked price, and then another discount having the same nominal value (in ₹). If the marked price of the article is ₹1145, then what is the value of d?

Ans
✗ 1. 16
✗ 2. 19
✗ 3. 23
✓ 4. 20

Black

Q.25 Refer to the following number and symbol series and answer the question that follows.
(Counting to be done from left to right only.)
(Left) 2 @ 4 + = 3 1 # 3 @ $ 9 8 * 9 4 2 8 7 6 5 (Right)
How many such symbols are there, each of which is immediately preceded by and also immediately followed by a number?

Ans
✗ 1. Four
✗ 2. One
✓ 3. Three
✗ 4. Two

Q.26
Which of the following factors is primarily responsible for survival of species?

Ans
✓ 1. Variations
✗ 2. Temperature
✗ 3. Niche
✗ 4. Mutation

Q.27 Which team clinched the Irani Cup title for the season 2024-25?

Ans
✗ 1. Karnataka
✓ 2. Mumbai
✗ 3. Railways
✗ 4. Rest of India

Q.28 In a certain code, 'copy book pencil' is coded as 'fd rl sg', 'pencil crayon eraser' is coded as 'bz xw rl', and 'crayon copy pen' is coded as 'xw sg xo'.What is the code for 'book' in that language?

(Note: All the codes are two letter coded only.)

Ans
✗ 1. sg
✓ 2. fd
✗ 3. xo
✗ 4. rl

Q.29 What is the name of the famous temple complex in Tamil Nadu, known for its Dravidian architecture and 1,000-pillar hall?

Ans
✗ 1. Brihadeeswarar Temple
✗ 2. Kanchipuram Temple
✗ 3. Jagannath Temple
✓ 4. Meenakshi Temple

Q.30 Based on the English alphabetical order, three of the following four are alike in a certain way and thus form a group. Which is the one that DOES NOT belong to that group?
(Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)

Ans
✗ 1. HLK
✓ 2. DGF
✗ 3. SWV
✗ 4. OSR

Q.31 The pH of acid rain is:

Ans
✗ 1. equal to 7
✓ 2. less than 5.6
✗ 3. more than 7
✗ 4. more than 5.6 but less than 7

Black

Q.32 A and B can do a piece of work in 4 days and 46 days, respectively. The number of days [Correct to one decimal place] required to complete the work if both A and B work together is:

Ans
✗ 1. 6.9
✓ 2. 3.6
✗ 3. 6.8
✗ 4. 5.5

Q.33 Which of the following options is INCORRECT with relation to the given statement?

The magnetic field lines of a bar magnet may be drawn using:

Ans
✗ 1. another bar magnet
✗ 2. iron filings
✗ 3. a magnetic compass
✓ 4. wood particles

Q.34 Find the value of $1.356 + 4.25 \times 8 - 3.562 \times 6 + 7.5 \times 4$.

Ans
✗ 1. 43.012
✓ 2. 43.984
✗ 3. 42.237
✗ 4. 41.625

Q.35 In a certain code language,
'A + B' means 'A is the son of B',
'A − B' means 'A is the brother of B',
'A × B' means 'A is the wife of B' and
'A ÷ B' means 'A is the father of B'.

How is S related to H if 'S − D + F ÷ G × H'?

Ans
✓ 1. Wife's Brother
✗ 2. Father
✗ 3. Brother
✗ 4. Wife's Father

Q.36 Which of the following is NOT a method of pollination?

Ans
✗ 1. Self-pollination
✗ 2. Wind pollination
✗ 3. Water pollination
✓ 4. Asexual pollination

Q.37 What should come in place of the question mark (?) in the given series based on the English alphabetical order?

FDW LJC RPI XVO ?

Ans
✗ 1. BDU
✓ 2. DBU
✗ 3. BUD
✗ 4. DUB

Q.38 Which part of the Bryophyllum plant develops new plants via vegetative propagation?

Ans
✗ 1. Stems
✓ 2. Leaves
✗ 3. Flowers
✗ 4. Roots

Black

Q.39 A question is followed by two statements numbered (I) and (II). You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and select the most appropriate answer.

Question:
Five boxes, V, W, X, Y and Z, have different weights. Which box among them is the second heaviest?

Statements:
(I) Y is heavier than W. Only three boxes are lighter than Z.
(II) X is heavier than W. X is heavier than V.

Ans
✔ 1. Data in statement I alone is sufficient to answer the question while data in statement II is not.
✘ 2. Data in statements I and II together are not sufficient to answer the question.
✘ 3. Data in statement II alone is sufficient to answer the question while data in statement I is not.
✘ 4. Data in statements I and II together are sufficient to answer the question.

Q.40 Two sets of numbers are given below. In each set of numbers, certain mathematical operation(s) on the first number result(s) in the second number. Similarly, certain mathematical operation(s) on the second number result(s) in the third number and so on. Which of the given options follows the same set of operations as in the given sets? (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g. 13 – Operations on 13 such as adding / subtracting /multiplying to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

6-18-72-102; 8-20-80-110

Ans
✘ 1. 4-16-64-84
✘ 2. 9-21-84-94
✔ 3. 7-19-76-106
✘ 4. 11-22-88-116

Q.41 A tube like structure grows down from the pollen grain to the style and reaches the ovule. This pollen tube is responsible for:

Ans
✘ 1. carrying carbon dioxide to the female germ cell in the ovary
✘ 2. carrying nutrition to the female germ cell in the ovary
✔ 3. carrying the male germ cell to the female germ cell in the ovary
✘ 4. carrying oxygen to the female germ cell in the ovary

Q.42 Contraception is one of the main goals of which health care programme?

Ans
✘ 1. Mental Health Programme
✘ 2. Indradhanush Immunisation Programme
✔ 3. Reproductive Health Programme
✘ 4. Pulse Polio Programme

Q.43 The average age of 40 boys in a class is 18 years. One boy, aged 26 years left the class, and two new boys joined the class. If the average age of all boys now in the class remains 18 years, then find the average age of the two newcomers.

Ans
✘ 1. 24 years
✘ 2. 20 years
✔ 3. 22 years
✘ 4. 21 years

Q.44 What was the venue of the 13th Ministerial Conference of the World Trade Organization in 2024?

Ans
✘ 1. New Delhi, India
✔ 2. Abu Dhabi, United Arab Emirates
✘ 3. London, England
✘ 4. Paris, France

Black

Q.45 YT21 is related to TO19 in a certain way based on the English alphabetical order. In the same way, PL17 is related to KG15. To which of the following is KF13 related, following the same logic?
(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g. 13 – Operations on 13 such as adding/subtracting/multiplying to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

Ans
✗ 1. AE11
✗ 2. FT17
✗ 3. FO11
✓ 4. FA11

Q.46 Oxidation of metals in the presence of acids or moisture is called:

Ans
✗ 1. neutralisation
✓ 2. corrosion
✗ 3. rancidity
✗ 4. rusting

Q.47 Based on the English alphabetical order, three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which letter-cluster pair DOES NOT belong to that group? (Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)

Ans
✗ 1. OY-VX
✗ 2. CM-JL
✗ 3. GQ-NP
✓ 4. LV-TU

Q.48 Yeast reproduces through which asexual mode of reproduction?

Ans
✓ 1. Budding
✗ 2. Fusion
✗ 3. Vegetative propagation
✗ 4. Fission

Q.49 How can you experimentally determine the focal length of a concave mirror?

Ans
✗ 1. Measure the angle of reflection.
✓ 2. Measure the distance between the mirror and the image of a distant object formed by it.
✗ 3. Measure the diameter of the mirror.
✗ 4. Measure the distance between the pole and the centre of curvature.

Q.50 What is the difference between the hypotenuse and the base of an isos

Ans
✗ 1. 12.4 m
✗ 2. 11.9 m
✗ 3. 10.9 m
✓ 4. 11.2 m

Q.51 In a convex mirror, the principal focus is located _____.

Ans
✗ 1. at the pole of the mirror
✗ 2. in front of the mirror
✗ 3. at the centre of curvature
✓ 4. behind the mirror

Black

Q.52 What is the median of the following data?
17, 54, 51, 64, 13, 39, 23, 40, 78, 66, 96

Ans
- ✗ 1. 51.5
- ✓ 2. 51
- ✗ 3. 52
- ✗ 4. 50.5

Q.53 Among five people named A, B, C, D and E, each has a certain age. C is twice the age of A. A is three times the age of D. D is one fifth the age of B. The age of B is 45. If E is equal the age of C, what is the age of E?

Ans
- ✗ 1. 58
- ✓ 2. 54
- ✗ 3. 52
- ✗ 4. 56

Q.54 Two taps can fill a cistern in 2 hours and 46 hours respectively. A third tap can empty it in 46 hours. How long (in hours) will it take to fill the empty cistern, if all of them are opened together?

Ans
- ✗ 1. 4
- ✗ 2. 5
- ✓ 3. 2
- ✗ 4. 3

Q.55 The first President of the Indian National Congress was _____.

Ans
- ✗ 1. Ras Behari Bose
- ✗ 2. Gopal Krishna Gokhale
- ✗ 3. Dada Bhai Naoroji
- ✓ 4. Womesh Chandra Banerjee

Q.56 Which scientist(s) established the laws of Inheritance?

Ans
- ✗ 1. Watson and Crick
- ✓ 2. Gregor Johann Mendel
- ✗ 3. Charles Darwin
- ✗ 4. Thomas Hunt Morgan

Q.57 Which of the following statements are correct with respect to Arunachal Himalaya?
Statement 1: These extend from the east of the Bhutan Himalayas up to the Diphu pass in the east.
Statement 2: The general direction of the mountain range is from southwest to northeast.
Statement 3: Some of the important mountain peaks of the region are K2 and Annapurna.
Statement 4: These ranges are dissected by fast-flowing rivers from the north to the south, forming deep gorges.

Ans
- ✓ 1. Statements 1, 2 and 4 are correct.
- ✗ 2. Only statements 2 and 3 are correct.
- ✗ 3. Statements 2, 3 and 4 are correct.
- ✗ 4. Statements 1, 2 and 3 are correct.

Q.58 Select the letter-cluster from among the given options that can replace the question mark (?) in the following series.

CYU XTP SOK NJF ?

Ans
✗ 1. ERT
✓ 2. IEA
✗ 3. EAI
✗ 4. IAI

Q.59 What is the name (acronym) of the software developed by ISRO, through its Vikram Sarabhai Space Centre (VSSC), a Computational Fluid Dynamics (CFD) tool aimed at facilitating aerodynamic design and analysis for aerospace vehicles?

Ans
✓ 1. PraVaHa
✗ 2. PraNaMa
✗ 3. PraYoGa
✗ 4. PraViNa

Q.60 ₹3300 were divided among P, Q and R, such that 4 times of P = 7 times of Q = 2 times of R. Find the share of R.

Ans
✗ 1. ₹2028
✗ 2. ₹2024
✗ 3. ₹2046
✓ 4. ₹1848

Q.61 Mayank starts from Point A and drives 18 km towards east. He then takes a right turn, drives 19 km, turns right and drives 21 km. He then takes a right turn and drives 25 km. He takes a final right turn, drives 3 km and stops at Point P. How far (shortest distance) and towards which direction should he drive in order to reach Point A again? (All turns are 90° turns only unless specified.)

Ans
✗ 1. 5 km to the south
✗ 2. 8 km to the south
✓ 3. 6 km to the south
✗ 4. 4 km to the south

Q.62 The population of a town in 1974 was 222900. If its population increased in two successive decades by 50% in each decade, the population of the town in 1994 was:

Ans
✗ 1. 501521
✓ 2. 501525
✗ 3. 501520
✗ 4. 501526

Q.63 A number when increased by 50 %', gives 3120. The number is:

Ans
✓ 1. 2080
✗ 2. 1040
✗ 3. 4160
✗ 4. 6240

Q.64 Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusion(s) logically follow(s) from the statements.

Statements: All hens are juices. Some juices are nests. All pins are nests.

Conclusions:
(I): Some pins are hens.
(II): Some pins are juices

Ans
✔ 1. Neither conclusion (I) nor (II) follows.
✘ 2. Only conclusion (I) follows.
✘ 3. Only conclusion (II) follows.
✘ 4. Both conclusions (I) and (II) follow.

Q.65 Select the option in which the numbers share the same relationship as that shared by the given pairs of numbers.
(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 – Operations on 13 such as adding/subtracting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

185, 113
170, 98

Ans
✘ 1. 165, 103
✘ 2. 112, 50
✔ 3. 146, 74
✘ 4. 136, 62

Q.66 What is the angle formed between two lateral faces of a triangular glass prism called?

Ans
✘ 1. Angle of incidence
✘ 2. Angle of refraction
✘ 3. Angle of deviation
✔ 4. Angle of the prism

Q.67 The solution of the system of the given linear equations is:

$2x + 3y - z = 5,\ x - 2y + 4z = -2,\ 3x + y + 2z = 7$

Ans
✘ 1. $x = \frac{-44}{7}, y = \frac{-27}{7}, z = 4$
✘ 2. $x = \frac{44}{7}, y = \frac{-27}{7}, z = -8$
✘ 3. $x = \frac{-44}{7}, y = \frac{27}{7}, z = -4$
✔ 4. $x = \frac{44}{7}, y = \frac{-27}{7}, z = -4$

Q.68 The Indian Constitution guarantees Fundamental Rights to its citizens under which of the following Articles?

Ans
✔ 1. Only Articles 12 to 35
✘ 2. Only Articles 14 to 32
✘ 3. Only Articles 12 to 30
✘ 4. Only Articles 15 to 35

Black

Q.69 If the resistance of a conductor is doubled while the current remains the same, how will the heat produced per unit time change?

Ans
- ✗ 1. It will quadruple.
- ✗ 2. It will be halved.
- ✗ 3. It will remain the same.
- ✓ 4. It will double.

Q.70 The average price of three items of furniture is Rs 15765. If their prices are in the ratio 3:5:7, the price of the costliest item (in Rs) is

Ans
- ✓ 1. 22071
- ✗ 2. 3153
- ✗ 3. 7357
- ✗ 4. 5255

Q.71 If x is inversely proportional to y, and y = 5 when x = 2, find the value of x, when y = 41.

Ans
- ✗ 1. $\frac{11}{42}$
- ✗ 2. $\frac{12}{44}$
- ✗ 3. $\frac{10}{42}$
- ✓ 4. $\frac{10}{41}$

Q.72 Select the letter-cluster pair that best represents a similar relationship to the one expressed in the pairs of letter-clusters given below.

WJT : ZNO
KAK : NEF

Ans
- ✗ 1. LBL : OEG
- ✗ 2. TFV : WJR
- ✗ 3. MTK : PXG
- ✓ 4. NKH : QOC

Q.73 Leishmania reproduces by:

Ans
- ✗ 1. binary fission in any plane
- ✗ 2. binary fission in only vertical planes
- ✗ 3. binary fission in two equal halves
- ✓ 4. binary fission in a definite plane

Q.74 What should come in place of the question mark (?) in the given series?

68 76 86 98 112 ?

Ans
- ✗ 1. 122
- ✗ 2. 125
- ✓ 3. 128
- ✗ 4. 132

Pakbook

Q.75 Who among the following was the ruler of Gujarat when Humayun attacked the kingdom in 1532?

Ans
✔ 1. Bahadur Shah
✘ 2. Sikandar Shah
✘ 3. Muzaffar Shah II
✘ 4. Zafar Khan Muzaffar

Q.76 A, B, C, D, E and F live on six different floors of the same building. The lowermost floor in the building is numbered 1, the floor above it is numbered 2 and so on, till the topmost floor is numbered 6.
Only four people live between D and F. C lives on an even numbered floor but not on floor number 2. E lives immediately below A but above D.
How many people live below B?

Ans
✘ 1. Two
✔ 2. Four
✘ 3. Three
✘ 4. One

Q.77 Which of the following steps is the first step in balancing a chemical equation?

Ans
✘ 1. Balancing oxygen atoms
✘ 2. Adding coefficients randomly
✘ 3. Balancing hydrogen atoms
✔ 4. Writing the skeleton equation

Q.78 In a certain code language,
'actor singer dancer' is coded as 'ma ph st',
'dancer doctor engineer' is coded as 'cd le ma' and
'engineer actor cricketer' is coded as 'st bq cd'.
(All the codes are two-letter codes only.)
What is the code for 'actor' in that lanuage?

Ans
✘ 1. ma
✘ 2. bq
✔ 3. st
✘ 4. cd

Q.79 Evaluate: 32 ÷ 12 × 3 - 2 × 4

Ans
✘ 1. 3
✔ 2. 0
✘ 3. 2
✘ 4. -1

Q.80 Which of the following is correct with regard to resistances in a series circuit?

Ans
✘ 1. Total resistance is less than any individual resistance.
✘ 2. Total resistance is equal to the product of all resistances.
✘ 3. Total resistance is inversely proportional to each resistance.
✔ 4. Total resistance is equal to the sum of all individual resistances.

Q.81 Anamika travels a distance of 183 km with speed of 61 km/h and 225 km with 45 km/h by her car. Find the average speed (in km/h) of Anamika.

Ans
✔ 1. 51
✘ 2. 59
✘ 3. 54
✘ 4. 56

Black book

Q.82 AB and CD are parallel straight lines and HI is the transversal intersecting AB at E and CD at F. G is a point between the lines AB and CD but not on HI, such that $m\angle EGF = 65^0$. If $\frac{2}{5} \times m\angle BEG = \frac{3}{5} \times m\angle DFG$, and $m\angle DFG = \frac{1}{3} \times m\angle DFE$, what is the measure of $\angle FEG$?

Ans
✗ 1. 62°
✓ 2. 63°
✗ 3. 52°
✗ 4. 69°

Q.83 Where does the image form when an object is positioned at the centre of curvature of a concave mirror?

Ans
✗ 1. At the pole
✗ 2. At infinity
✓ 3. At the centre of curvature
✗ 4. At the focal point

Q.84 When Plaster of Paris is mixed with water, it undergoes which of the following changes?

Ans
✗ 1. It produces a gas.
✗ 2. It loses all its water molecules.
✓ 3. It changes to gypsum.
✗ 4. It dissolves completely.

Q.85 What is the average of all the natural numbers from 1 to 97?

Ans
✓ 1. 49
✗ 2. 48.5
✗ 3. 50
✗ 4. 49.5

Q.86 Find the cost (in ₹) of digging a cuboidal pit 9 m long, 5 m broad and 4 m deep at the rate of ₹20 per m^3.

Ans
✗ 1. 3,900
✗ 2. 3,800
✗ 3. 3,700
✓ 4. 3,600

Q.87 $\frac{(a^9 \times b^3 \times c^6)}{(a^{10} \times b^6 \times c^3)}$ in simplified form is:

Ans
✗ 1. $(a^1) \times (b^6) \times (c^{-9})$
✗ 2. $(a^1) \times (b^1) \times (c^5)$
✓ 3. $(a^{-1}) \times (b^{-3}) \times (c^3)$
✗ 4. $(a^{-7}) \times (b^{-9}) \times (c^4)$

Q.88 What happens when zinc (Zn) reacts with hydrochloric acid (HCl)?

Ans
✗ 1. Zinc is reduced.
✗ 2. Hydrogen is oxidised.
✓ 3. Zinc is oxidised.
✗ 4. Both Zinc and Hydrogen are oxidised.

Black

Q.89 What will come in the place of the question mark (?) in the following equation if '÷' and '−' are interchanged and '+' and '×' are interchanged?

17 + 9 − 3 × 3 ÷ 7 = ?

Ans
✗ 1. 49
✗ 2. 40
✗ 3. 43
✓ 4. 47

Q.90 Refer to the given number, symbol series and answer the question that follows.
Counting to be done from left to right only.
(Left) 6 # 1 * 8 & 7 & 5 4 Ω 3 % 9 6 @ 2 $ 9 £ 3 (Right)
How many such symbols are there each of which is immediately preceded by an odd number but NOT immediately followed by an even number?

Ans
✗ 1. Three
✗ 2. Two
✗ 3. Four
✓ 4. One

Q.91 Which of the following waterways is located on the Tapi river?

Ans
✓ 1. NW-100
✗ 2. NW-10
✗ 3. NW-91
✗ 4. NW-1

Q.92 Which of the following is an example of a decomposition reaction that occurs due to the application of electric current?

Ans
✗ 1. Heating calcium carbonate
✓ 2. Electrolysis of water
✗ 3. Decomposition of sodium bicarbonate by heat
✗ 4. Decomposition of potassium permanganate by heat

Q.93 NATO will establish a new land command in _____ near the Russian border in 2025 to oversee northern European land operations during potential conflicts.

Ans
✗ 1. Turkmenistan
✓ 2. Finland
✗ 3. Ukraine
✗ 4. Kyrgyzstan

Q.94 As the concentration of hydronium ions increases, the pH value _____.

Ans
✗ 1. decreases and then increases
✓ 2. decreases
✗ 3. remains the same
✗ 4. increases

Q.95 A trader claims to sell rice at a profit of 74%, but also dishonestly uses a weight which is 9% less than what is mentioned on it. Find the total percentage of profit earned by the trader. (Round the answer to the nearest whole number.)

Ans
✗ 1. 94%
✗ 2. 89%
✓ 3. 91%
✗ 4. 87%

Black book

Q.96 A trader lost 10% by selling a shirt for ₹840. He will gain x%' by selling it for ₹1540, the value of x is:

Ans
- ✔ 1. 65
- ✘ 2. 80
- ✘ 3. 55
- ✘ 4. 75

Q.97 Rose flower pollen has reached Sunflower stigma through pollination. The pollen will be rejected by the stigma because:

Ans
- ✔ 1. pollen was not of sunflower
- ✘ 2. pollen was of rose flower
- ✘ 3. stigma has nothing to do with pollen
- ✘ 4. pollen has nothing to do with stigma

Q.98 What is the unit of electric power commonly used to measure household energy consumption?

Ans
- ✘ 1. Joules
- ✔ 2. Kilowatt-hours
- ✘ 3. Watts
- ✘ 4. Amperes

Q.99 Seven boxes, I, J, K, L, W, X and Y, are kept one over the other but not necessarily in the same order. Only K is kept above W. Only two boxes are kept between W and J. Only L is kept below I. J is not kept immediately below Y. How many boxes are kept between X and L?

Ans
- ✔ 1. Two
- ✘ 2. Three
- ✘ 3. One
- ✘ 4. Four

Q.10 What is the purpose of using devices like Copper-T in family planning?
0

Ans
- ✘ 1. To act as a physical barrier to sperm
- ✘ 2. To alter hormonal levels in women
- ✔ 3. To prevent fertilised eggs from implanting in the uterus
- ✘ 4. To block sperm transfer in males

Block

रेल भर्ती बोर्ड / RAILWAY RECRUITMENT BOARDS
सी ई एन आर आर बी - ०३/२०२४ - CEN RRB - 03/2024

Test Center Name	iON Digital Zone IDZ Karmanghat
Test Date	18/12/2024
Test Time	9:00 AM - 10:30 AM
Subject	RRB JE DMS CMA CS MS

*** Note**
Correct Answer will carry 1 mark per Question.
Incorrect Answer will carry 1/3 Negative mark per Question.

1. Options shown in green color with a tick icon are correct.
2. Chosen option on the right of the question indicates the option selected by the candidate.

Section : **RRB JE, DMS, CMA, CS, MS CBT-1**

Q.1	In ΔPQR and ΔXYZ, PQ = 5 cm, QR = 6 cm, PR = 7 cm, XY
Ans	✗ 1. $\Delta PQR \cong \Delta YXZ$
	✗ 2. $\Delta PRQ \cong \Delta XYZ$
	✓ 3. $\Delta PQR \cong \Delta XYZ$
	✗ 4. $\Delta QPR \cong \Delta XYZ$

Q.2	Himani travels a distance of 352 km with speed of 32 km/h and 330 km with 30 km/h by her car. Find the average speed (in km/h) of Himani.
Ans	✗ 1. 26
	✗ 2. 21
	✗ 3. 39
	✓ 4. 31

Q.3	RUON is related to VYSR in a certain way based on the English alphabetical order. In the same way, HKED is related to LOIH. To which of the given options is TWQP related, following the same logic?
Ans	✓ 1. XAUT
	✗ 2. XATU
	✗ 3. AXUT
	✗ 4. AXTU

Q.4	Which of the following statements is/are correct? 1) Nari Shakti Vandan Adhiniyam was introduced in 2023. 2) Nari Shakti Vandan Adhiniyam ensures 33% reserved seats for women in the Parliament, Legislative Assemblies and Delhi Assembly. 3) Nari Shakti Vandan Adhiniyam will be in force for 10 years only.
Ans	✗ 1. 1 only
	✗ 2. 1 and 2
	✗ 3. 1 and 3
	✓ 4. 2 and 3

Q.5	If 1 is added to each odd digit and 1 is subtracted from each even digit in the number 8436152, then what will be the difference between the last and the first digits from the left in the number thus formed?
Ans	✗ 1. 3
	✗ 2. 5
	✓ 3. 6
	✗ 4. 4

Q.6	What would happen to dead plants and animals if decomposers were absent from an ecosystem?
Ans	✓ 1. They would persist, and the natural replenishment of soil would be hindered.
	✗ 2. They would quickly turn into soil.
	✗ 3. They would be eaten by consumers.
	✗ 4. They would become producers.

Q.7	What should come in place of the question mark (?) in the given series? 64 61.7 59.4 57.1 ? 52.5
Ans	✓ 1. 54.8
	✗ 2. 53.1
	✗ 3. 55.4
	✗ 4. 56.7

Q.8	For which mission of ISRO has the International Astronautical Federation (IAF) awarded ISRO the World Space Award?
Ans	✓ 1. Chandrayaan-3
	✗ 2. Aditya-L1
	✗ 3. Venus Mission
	✗ 4. Chandrayaan-2

Q.9	With which of the following pricing approaches is a product's price equal to its marginal cost?
Ans	✗ 1. Mark-up pricing
	✗ 2. Factor pricing
	✓ 3. Marginal cost pricing
	✗ 4. Price discrimination

Q.10	Article 51 A (b) of the Indian Constitution states that it is the duty of the citizens 'to cherish and follow the noble ideals that inspired the _____'.
Ans	✓ 1. national struggle for freedom
	✗ 2. global values and principles
	✗ 3. political ideas of various parties
	✗ 4. customs and traditions of India

Q.11	This question is based on the five, three-digit numbers given below. (Left) 473 987 324 529 648 (Right) (Example: 697 – First digit = 6, second digit = 9 and third digit = 7) NOTE: All the operations to be performed from left to right. The position of how many numbers will remain unchanged if all these numbers are arranged in ascending order?
Ans	✓ 1. None
	✗ 2. Three
	✗ 3. Two
	✗ 4. One

Black Book

Q.12	The potential difference versus current plot for a conducting wire is a straight line. The slope of this line gives us the:
Ans	✗ 1. current flowing through the wire
	✗ 2. voltage across the wire
	✗ 3. number of electrons in the wire
	✓ 4. resistance of the wire

Q.13	Which of the following reactions is an example of a precipitation reaction?
Ans	✗ 1. $HCl + NaOH \rightarrow NaCl + H_2O$
	✗ 2. $CaCO_3 \rightarrow CaO + CO_2$
	✗ 3. $2H_2 + O_2 \rightarrow 2H_2O$
	✓ 4. $NaCl + AgNO_3 \rightarrow NaNO_3 + AgCl$

Q.14	In which year did the amount of ozone begin to drop sharply in the atmosphere?
Ans	✗ 1. 1950
	✓ 2. 1980
	✗ 3. 1960
	✗ 4. 1970

Q.15	Two pipes can fill a tank in 34 hours and 94 hours, respectively. The time (in hours) required to fill the tank when both pipes are opened simultaneously is:
Ans	✗ 1. $\frac{797}{29}$
	✗ 2. $\frac{798}{31}$
	✓ 3. $\frac{799}{32}$
	✗ 4. $\frac{796}{30}$

Q.16	Seven boxes, E, F, G, H, T, U and V, are kept one over the other, but not necessarily in the same order. Only two boxes are kept below E. Only one box is kept above T. Only one box is kept between T and U. G is kept immediately below F. V is kept at some place below H. How many boxes are kept between H and F?
Ans	✓ 1. Four
	✗ 2. Two
	✗ 3. Three
	✗ 4. One

Q.17	What is the reason for CFC free refrigerators being manufactured for use throughout the world?
Ans	✗ 1. CFC makes refrigeration a tough process.
	✓ 2. CFC is a synthetic chemical which depletes the ozone layer.
	✗ 3. CFC is tough to handle for the refrigeration industry.
	✗ 4. CFC is cheap for use in refrigerators.

Black

Q.18	The sum of 8 numbers is 336. Find their average number.
Ans	✗ 1. 40
	✓ 2. 42
	✗ 3. 43
	✗ 4. 41

Q.19	Select the option in which the numbers share the same relationship as that shared by the given pairs of numbers. (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 – Operations on 13 such as adding/subtracting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.) 96, 12 184, 23
Ans	✗ 1. 130, 16
	✓ 2. 144, 18
	✗ 3. 156, 19
	✗ 4. 180, 20

Q.20	If the mean of the following data is 61, then the value of X is:

xi	55	60	70	95
fi	48	X	31	23

Ans	✗ 1. 790
	✗ 2. 799
	✓ 3. 773
	✗ 4. 796

Q.21	A man walks to a viewpoint and returns to the starting point by his car maintaining constant speed and thus takes a total time of 6 hours 45 minutes. He would have gained 2 hours by driving both ways. How long would it have taken for him to walk both ways with same walking speed?
Ans	✗ 1. 8 hours 30 minutes
	✗ 2. 9 hours 15 minutes
	✓ 3. 8 hours 45 minutes
	✗ 4. 7 hours 45 minutes

Q.22	The climate of the Thar desert is best described as _____.
Ans	✗ 1. tropical rainforest
	✗ 2. temperate
	✗ 3. humid subtropical
	✓ 4. arid

Q.23	B is the father of A. C is the brother of A. D is the wife of C and E is the son of D. How is B related to E?
Ans	✓ 1. Father's father
	✗ 2. Father's brother
	✗ 3. Father
	✗ 4. Brother

Black book

Q.24	B, C, E, F and H have different heights. B is taller than C but shorter than H. H is taller than E but shorter than F. E is taller than C but shorter than B. How many people are shorter than B?
Ans	✗ 1. One
	✓ 2. Two
	✗ 3. Three
	✗ 4. Four

Q.25	What architectural style is the Meenakshi Amman Temple known for?
Ans	✗ 1. Indo-Saracenic
	✗ 2. Gothic
	✗ 3. Roman
	✓ 4. Dravidian

Q.26	What is the median of the following data? 78, 33, 59, 56, 61, 36, 48, 42, 97, 57, 62
Ans	✗ 1. 57.5
	✗ 2. 56.5
	✗ 3. 58
	✓ 4. 57

Q.27	What term can be used for substances that are broken down by biological processes?
Ans	✗ 1. Non-biodegradable
	✗ 2. Compostable
	✓ 3. Biodegradable
	✗ 4. Recyclable

Q.28	What is the smallest 4-digit number which, when divided by 12, 16, and 20, gives a remainder of 9?
Ans	✗ 1. 1049
	✓ 2. 1209
	✗ 3. 1217
	✗ 4. 1017

Q.29	Sakshi invested a sum of ₹8900 at 10% per annum compound interest, componded annually. If she received an amount of ₹10769 after n years, the value of n is:
Ans	✗ 1. 1.60000002384186
	✗ 2. 2.4
	✗ 3. 3
	✓ 4. 2

Q.30	Which synthetic chemicals are responsible for the depletion of ozone in the atmosphere?
Ans	✗ 1. Nitrogen oxides
	✓ 2. Chlorofluorocarbons (CFCs)
	✗ 3. Methane
	✗ 4. Carbon dioxide

Black Book

Q.31	Which of the following substances will take the longest time to degrade naturally in the environment?
Ans	✗ 1. Leaves
	✓ 2. Leather
	✗ 3. Paper
	✗ 4. Cardboard box

Q.32	Which attribute of a paper cup makes it better than a plastic cup for our environment?
Ans	✗ 1. Non-biodegradable
	✗ 2. Not disposable
	✗ 3. Disposable
	✓ 4. Biodegradable

Q.33	Two sets of numbers are given below. In each set of numbers, certain mathematical operation(s) on the first number result(s) in the second number. Similarly, certain mathematical operation(s) on the second number result(s) in the third number and so on. Which of the given options follows the same set of operations as in the given sets? (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g. 13 – Operations on 13 such as adding / subtracting /multiplying to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.) 19-57-114-134; 21-63-126-146
Ans	✗ 1. 18-54-108-118
	✗ 2. 17-51-102-112
	✓ 3. 16-48-96-116
	✗ 4. 20-60-120-180

Q.34	The first ruler of Delhi Sultanate was:
Ans	✗ 1. Alauddin Khalji
	✗ 2. Iltutmish
	✗ 3. Balban
	✓ 4. Qutb-ud-din Aibak

Q.35	Refer to the following number, symbol series and answer the question. Counting to be done from left to right only. (Left) 9 8 & & © € % 8 $ 9 8 2 # 5 2 7 7 1 5 £ € % (Right) How many such numbers are there each of which is immediately preceded by a symbol and also immediately followed by a symbol?
Ans	✗ 1. 2
	✓ 2. 1
	✗ 3. 0
	✗ 4. 3

Q.36	A and B complete a work in 18 days. If A alone can do it in 54 days then, B alone can do in_____(days).
Ans	✗ 1. 28
	✗ 2. 29
	✓ 3. 27
	✗ 4. 26

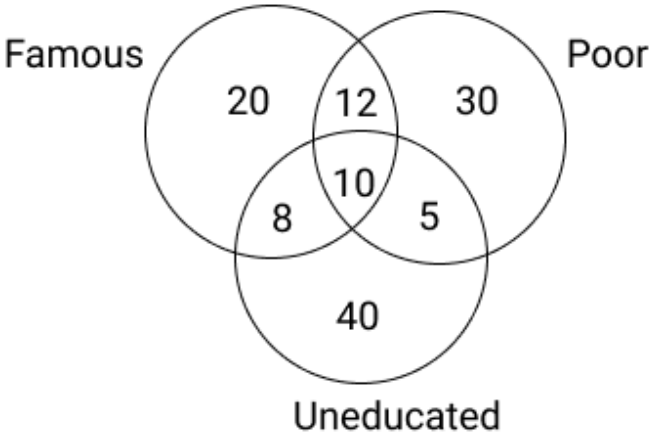
Q.37	**If a substance has a pH of 11, which of the following statements is true?**
Ans	✗ 1. It is neutral and does not change the litmus colour.
	✗ 2. It is acidic and does not change the colour of the litmus paper.
	✓ 3. It is basic and can turn red litmus paper blue.
	✗ 4. It is acidic and can turn blue litmus paper red.

Q.38	**If three resistors of 6 Ω, 3 Ω and 2 Ω are connected in parallel, the total equivalent resistance is _____.**
Ans	✗ 1. 2 Ω
	✓ 2. 1 Ω
	✗ 3. 0.5 Ω
	✗ 4. 11 Ω

Q.39	**When two elements react to form a compound, it can be classified as:**
Ans	✗ 1. double displacement
	✗ 2. displacement
	✓ 3. combination
	✗ 4. decomposition

Q.40	**Who was appointed as the new head coach of the junior men's hockey team in August 2024?**
Ans	✗ 1. Shankar Lakshman
	✗ 2. Prithipal Singh
	✗ 3. Harmanpreet Singh
	✓ 4. PR Sreejesh

Q.41	If $A = 7.5°$, what is the value of $\left(12.8 \times \frac{1}{\sqrt{3}}\cot 4A + 7.2 \tan 6A\right)$
Ans	✗ 1. 12
	✓ 2. 20
	✗ 3. 10
	✗ 4. 8

Q.42	**Study the given diagram carefully and answer the questions. The numbers in different sections indicate the number of persons. How many persons are both poor and uneducated but not famous ?** **(NOTE: You have to take the given data to be true even if they seem to be at variance from commonly known facts.)** 
Ans	✔ 1. 5
	✘ 2. 8
	✘ 3. 12
	✘ 4. 30

Q.43	**Why is monitoring pH crucial for understanding the impacts of acid rain on soil and water ecosystems?**
Ans	✘ 1. Acid rain increases the pH of soil and water bodies.
	✘ 2. Acid rain does not affect soil and water ecosystems.
	✘ 3. Acid rain only makes the water taste sour.
	✔ 4. Acid rain decreases the pH, harming aquatic life and soil nutrient availability.

Q.44	**If the length of a wire-shaped resistor is doubled, the resistivity:**
Ans	✘ 1. is halved
	✔ 2. remains the same
	✘ 3. is doubled
	✘ 4. is quadrupled

Q.45	**Write the expanded form of $(6a + 2b + 7c)^2$.**
Ans	✘ 1. $36a^2 + 4b^2 + 49c^2 + 28ab + 28bc + 84ac$
	✔ 2. $36a^2 + 4b^2 + 49c^2 + 24ab + 28bc + 84ac$
	✘ 3. $36a^2 + 4b^2 + 49c^2 + 24ab + 28bc + 94ac$
	✘ 4. $36a^2 + 4b^2 + 49c^2 + 24ab + 23bc + 84ac$

Q.46	**When was the Indian Remote Sensing Satellite System (IRS) established?**
Ans	✘ 1. 1959
	✘ 2. 1983
	✔ 3. 1988
	✘ 4. 1972

Black book

Q.47	Fleming's Right-Hand Rule is applicable in the case of _____.
Ans	✗ 1. fuse wires
	✓ 2. electric generators
	✗ 3. electric kettles
	✗ 4. electric motors

Q.48	What should come in place of the question mark (?) in the given series? 18 24 34 40 50 ?
Ans	✓ 1. 56
	✗ 2. 58
	✗ 3. 57
	✗ 4. 55

Q.49	A copper wire has a resistance of 10 Ω. If it is replaced with a wire of the same material and length but twice the cross-sectional area, its resistance will be _____.
Ans	✓ 1. 5 Ω
	✗ 2. 10 Ω
	✗ 3. 2.5 Ω
	✗ 4. 20 Ω

Q.50	A trader lost 10% by selling a shirt for ₹850. He will gain x%' by selling it for ₹1360, the value of x is:
Ans	✗ 1. 59
	✗ 2. 34
	✗ 3. 54
	✓ 4. 44

Q.51	In a certain code language,'guns and roses' is coded as 'li mh ca','for the roses' is coded as 'mh bo ph' and'guns for colours' is coded as 'ca bo qu'.What is the code for 'roses' in that language?
Ans	✗ 1. li
	✓ 2. mh
	✗ 3. ca
	✗ 4. bo

Q.52	Which of the following can be broken down by biological processes?
Ans	✗ 1. Aluminium foil
	✗ 2. Milk packets
	✗ 3. Plastic bottles
	✓ 4. Vegetable peels

Q.53	$\frac{(a^1 \times b^7 \times c^7)}{(a^1 \times b^2 \times c^{10})}$ in simplified form is:
Ans	✗ 1. $(a^2) \times (b^4) \times (c^{-5})$
	✗ 2. $(a^4) \times (b^2) \times (c^2)$
	✓ 3. $(a^0) \times (b^5) \times (c^{-3})$
	✗ 4. $(a^{-8}) \times (b^{-5}) \times (c^{-9})$

Q.54	In which direction does the force act on a conductor placed in a magnetic field in an electric motor?
Ans	✗ 1. In the direction of the current
	✓ 2. Perpendicular to both the current and magnetic field
	✗ 3. Opposite to the magnetic field
	✗ 4. Along the magnetic field

Q.55	Two numbers are in the ratio 5 : 8. If the first number is increased by 13 and the second number is decreased by 6, then the ratio becomes 4 : 6. What is the sum of the original two numbers?
Ans	✗ 1. 650
	✗ 2. 681
	✓ 3. 663
	✗ 4. 665

Q.56	In the reaction $CuO+H_2 \rightarrow Cu+H_2O$, the substance reduced is:
Ans	✗ 1. H_2
	✗ 2. H_2O
	✗ 3. Cu
	✓ 4. CuO

Q.57	Find the simple interest (in closest integral ₹) on ₹4000 at 5.25% per annum rate of interest for the period from 14 February 2024 to 15 April 2024
Ans	✓ 1. 35
	✗ 2. 36
	✗ 3. 34
	✗ 4. 33

Q.58	If the mean proportional of P and 100 is 50, then find the value of P.
Ans	✗ 1. 22
	✓ 2. 25
	✗ 3. 24
	✗ 4. 28

Q.59	How many of the following Union territories were created after State Reorganisation Act passed in 1956?
Ans	✗ 1. 4
	✗ 2. 7
	✗ 3. 5
	✓ 4. 6

Q.60	Which of the following represents a combination reaction?
Ans	✓ 1. $CaO + H_2O \rightarrow Ca(OH)_2$
	✗ 2. $2KClO_3 \rightarrow 2KCl + 3O_2$
	✗ 3. $NaCl + AgNO_3 \rightarrow AgCl + NaNO_3$
	✗ 4. $CaCO_3 \rightarrow CaO + CO_2$

Black

Q.61	**Which of the following letter-number clusters will replace the question mark (?) in the given series to make it logically complete?** **JCF25, KDG34, LEH43, MFI52, ?**
Ans	✗ 1. NGJ60
	✓ 2. NGJ61
	✗ 3. NGI60
	✗ 4. NGI61

Q.62	**The average price of three items of furniture is Rs 16455. If their prices are in the ratio 3:5:7, the price of the cheapest item (in Rs) is**
Ans	✗ 1. 5485
	✓ 2. 9873
	✗ 3. 7679
	✗ 4. 3291

Q.63	By selling an article at $\frac{5}{14}$ of its actual selling price, Hitesh incurs a lo
Ans	✓ 1. 79.2%
	✗ 2. 81.9%
	✗ 3. 80.7%
	✗ 4. 81.2%

Q.64	**Select the letter-cluster pair that best represents a similar relationship to the one expressed in the pairs of letter-clusters given below.** **NCG : SFF** **SQO : XTN**
Ans	✗ 1. IUD : NXA
	✗ 2. REV : WHW
	✗ 3. QHX : VKV
	✓ 4. MKY : RNX

Q.65	**A solution has a pH of 12. Which ion concentration is higher in this solution?**
Ans	✗ 1. Both H^+ and OH^- are equal
	✗ 2. More number S^{2-} ions and more Cl^{-1}
	✓ 3. Only OH^-
	✗ 4. Only H^+

Q.66	**Based on the English alphabetical order, three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which is the one that DOES NOT belong to that group?**
Ans	✗ 1. MK – PN
	✗ 2. EC – HF
	✗ 3. IG – LJ
	✓ 4. TR – XV

Black book

Q.67	The cost of a washing machine is 25% less than the cost of a TV. If the cost of the washing machine increases by 82% and that of the TV decreases by 16%, then what is the change in the total cost of 8 washing machines and 9 TVs?
Ans	✗ 1. Decrease by 21%
	✗ 2. Increase by 20%
	✓ 3. Increase by 23.2%
	✗ 4. Decrease by 24%

Q.68	The curved surface area of a cone is 5544 cm^2, and the diameter is 1(
Ans	✗ 1. 23,550
	✗ 2. 27,270
	✗ 3. 25,530
	✓ 4. 27,720

Q.69	Why do iron filings arrange themselves in a pattern around a bar magnet?
Ans	✓ 1. Because of the magnetic field
	✗ 2. Due to electric charge
	✗ 3. Due to gravitational force
	✗ 4. Because they are heavy

Q.70	What happens to the resistance of most conductors as their temperature increases?
Ans	✓ 1. It increases.
	✗ 2. It becomes zero.
	✗ 3. It decreases.
	✗ 4. It remains the same.

Q.71	What role do green plants and certain bacteria play in an ecosystem?
Ans	✗ 1. Decomposers
	✗ 2. Parasites
	✓ 3. Producers
	✗ 4. Consumers

Q.72	Which of the following will cause the greatest increase in power dissipation for a given resistor?
Ans	✗ 1. Halving the resistance
	✗ 2. Doubling the resistance
	✓ 3. Doubling the voltage across the resistor
	✗ 4. Halving the current through the resistor

Q.73	₹5400 were divided among P, Q and R, such that 6 times of P = 3 times of Q = 8 times of R. Find the share of R.
Ans	✗ 1. ₹947
	✗ 2. ₹1235
	✗ 3. ₹1245
	✓ 4. ₹1080

Black book

Q.74	A number when increased by 50 %, gives 2850. The number is:
Ans	✗ 1. 5700
	✓ 2. 1900
	✗ 3. 950
	✗ 4. 3800

Q.75	Which ion is responsible for the acidic properties of acids?
Ans	✓ 1. H^+
	✗ 2. OH^-
	✗ 3. Cl^-
	✗ 4. Na^+

Q.76	The average marks of some students in a class is 75. When five students are included, the average becomes 78 and the marks of those five students are 80, 85, 89, 81 and 82. Find the total number of students.
Ans	✗ 1. 8
	✓ 2. 9
	✗ 3. 10
	✗ 4. 6

Q.77	Which of the following can be minimised through the implementation of proper sewage treatment?
Ans	✗ 1. Air pollution
	✗ 2. Noise pollution
	✓ 3. Water pollution
	✗ 4. Soil pollution

Q.78	Evaluate: 33 ÷ 9 × 3 - 2 × 4
Ans	✗ 1. 5
	✓ 2. 3
	✗ 3. 2
	✗ 4. 6

Q.79	Write the expanded form of $(9a + 6b + 4c)^2$.
Ans	✗ 1. $81a^2 + 36b^2 + 16c^2 + 108ab + 48bc + 82ac$
	✓ 2. $81a^2 + 36b^2 + 16c^2 + 108ab + 48bc + 72ac$
	✗ 3. $81a^2 + 36b^2 + 16c^2 + 112ab + 48bc + 72ac$
	✗ 4. $81a^2 + 36b^2 + 16c^2 + 108ab + 43bc + 72ac$

Q.80	The centres of two circles with radii 28 cm and 20 cm are 50 cm apart. What is the length (in cm) of the transverse common tangent?
Ans	✗ 1. 16
	✗ 2. 13
	✗ 3. 15
	✓ 4. 14

Black

Q.81	The ratio between HCF and LCM of two numbers 62 and 217 is 1 : 14. Find the LCM.
Ans	✗ 1. 402
	✗ 2. 430
	✗ 3. 439
	✓ 4. 434

Q.82	Which of the following combinations would produce a precipitate?
Ans	✗ 1. $NaCl + KNO_3$
	✗ 2. $NaOH + Na_2SO_4$
	✗ 3. NaOH + NaCl
	✓ 4. $NaOH + FeCl_3$

Q.83	Each of P, Q, R, S, T, U and V has an exam on a different day of a week starting from Monday and ending on Sunday of the same week. Q has the exam on Saturday. Only four people have exams after U. R has the exam immediately before T but not on Monday. S has the exam after P but before U. How many people have exams between R and V?
Ans	✗ 1. Four
	✓ 2. Two
	✗ 3. Five
	✗ 4. Three

Q.84	Which of the following letter-number clusters will replace the question mark (?) in the given series to make it logically complete? FIS38, RUE70, DGQ102, PSC134, ?
Ans	✓ 1. BEO166
	✗ 2. BOQ166
	✗ 3. BOW165
	✗ 4. BOE166

Q.85	In a certain code language, 'fan light door' is coded as 'dy ph mt', 'door window mat' is coded as 'lp ph st', 'mat fan glass' is coded as 'st bq dy'. What is the code for 'fan' in that language? (Note: All the codes are two-letter coded only.)
Ans	✗ 1. mt
	✓ 2. dy
	✗ 3. bq
	✗ 4. ph

Q.86	Who among the following women started the Women's Indian Association in 1917?
Ans	✗ 1. Sarojini Naidu
	✓ 2. Annie Besant
	✗ 3. Madam Bhikaji Cama
	✗ 4. Usha Mehta

Black

Q.87	**A question is given, followed by two statements labelled I and II. Identify which of the statements is/are sufficient to answer the question.** **Five people, A, B, C, D and E, have different weights each. Who is the heaviest?** **(I) A is heavier than C but lighter than D.** **(II) B is not the heaviest and E is not the lightest.**
Ans	✗ 1. Data in Statement II alone is sufficient to answer the question, while data in Statement I is not.
	✓ 2. Both Statements I and II put together are not sufficient to answer the question.
	✗ 3. Both Statements I and II put together (and not independently) are sufficient to answer the question.
	✗ 4. Data in Statement I alone is sufficient to answer the question, while data in Statement II is not.

Q.88	**Which country gave the name 'Dana' to the cyclone that hit India from the Bay of Bengal?**
Ans	✗ 1. The Maldives
	✗ 2. The United Arab Emirates
	✗ 3. Oman
	✓ 4. Saudi Arabia

Q.89	**Tapan starts from Point A and drives 8 km towards the south. He then takes a right turn, drives 5 km, turns right and drives 12 km. He then takes a right turn and drives 9 km. He takes a final right turn, drives 4 km and stops at Point P. How far (shortest distance) and towards which direction should he drive in order to reach Point A again? (All turns are 90° turns only unless specified.)**
Ans	✗ 1. 5 km to the west
	✓ 2. 4 km to the west
	✗ 3. 7 km to the west
	✗ 4. 6 km to the west

Q.90	**Write the expanded form of $(5a + 4b + 9c)^2$.**
Ans	✗ 1. $25a^2 + 16b^2 + 81c^2 + 40ab + 67bc + 90ac$
	✗ 2. $25a^2 + 16b^2 + 81c^2 + 40ab + 72bc + 100ac$
	✗ 3. $25a^2 + 16b^2 + 81c^2 + 44ab + 72bc + 90ac$
	✓ 4. $25a^2 + 16b^2 + 81c^2 + 40ab + 72bc + 90ac$

Q.91	**According to experimental results, when does the magnitude of the force on a current-carrying conductor in a magnetic field become the highest?**
Ans	✗ 1. When the current is opposite to the magnetic field
	✗ 2. When the current is parallel to the magnetic field
	✗ 3. When the current flows at any angle to the magnetic field
	✓ 4. When the current is perpendicular to the magnetic field

Q.92	**Which of the following letter-clusters should replace # and % so that the pattern and relationship followed between the letter-cluster pair on the left side of :: is the same as that on the right side of :: ?** **# : GOK :: HPL : %**
Ans	✗ 1. # = EMJ, % = JRN
	✗ 2. # = EMI, % = JRM
	✓ 3. # = EMI, % = JRN
	✗ 4. # = EMI, % = JSN

Black Book

Q.93	The author of the famous novel 'Midnight's Children' is:
Ans	✔ 1. Salman Rushdie
	✘ 2. Khushwant Singh
	✘ 3. Shashi Tharoor
	✘ 4. Ruskin Bond

Q.94	When lead nitrate is heated, it decomposes to form lead monoxide (PbO), nitrogen dioxide (NO_2), and oxygen (O_2). The brown gas seen during the reaction is:
Ans	✘ 1. nitric oxide (NO)
	✘ 2. lead monoxide (PbO)
	✔ 3. nitrogen dioxide (NO_2)
	✘ 4. oxygen (O_2)

Q.95	What was the venue of the North Atlantic treaty Organization (NATO) Summit in July 2024?
Ans	✘ 1. London, England
	✘ 2. Paris, France
	✔ 3. Washington, D.C., United States
	✘ 4. New York, United States

Q.96	What will come in the place of the question mark (?) in the following equation, if '+' and '−' are interchanged and '×' and '÷' are interchanged? 34 ÷ 33 × 22 + 19 − 40 = ?
Ans	✘ 1. 74
	✘ 2. 73
	✘ 3. 70
	✔ 4. 72

Q.97	Based on the English alphabetical order, three of the following four letter-clusters are alike in a certain way and thus form a group. Which letter-cluster DOES NOT belong to that group? (Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)
Ans	✔ 1. WAIO
	✘ 2. MQZE
	✘ 3. GKTY
	✘ 4. OSBG

Q.98	Which of the following articles empowers the President to make regulations for the peace, progress and good government of the union territories?
Ans	✔ 1. Article 240
	✘ 2. Article 243
	✘ 3. Article 239
	✘ 4. Article 244

Q.99	A, B, C, D, E, F and G are sitting around a circular table facing the centre. B sits third to the right of F. D sits fourth to the left of B. C is neither the immediate neighbour of B nor D. A sits third to the right of C. E is not the immediate neighbour of D. How many people sit between E and G, when counted from the left of E?
Ans	✘ 1. None
	✘ 2. One
	✘ 3. Two
	✔ 4. Three

Black Book

Q.100	**A shopkeeper sells an item for ₹770.7 after giving two successive discounts of 58% and 80% on its marked price. Had he not given any discount, he would have earned a profit of 25%. What is the cost price (in ₹) of the item?**
Ans	✗ 1. 7353
	✗ 2. 7322
	✓ 3. 7340
	✗ 4. 7315

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Blackb

रेल भर्ती बोर्ड / RAILWAY RECRUITMENT BOARDS

सी ई एन आर आर बी - ०३/२०२४ - CEN RRB - 03/2024

Test Center Name	iON Digital Zone iDZ Luthergiri
Test Date	18/12/2024
Test Time	12:45 PM - 2:15 PM
Subject	RRB JE DMS CMA CS MS

*** Note**
Correct Answer will carry 1 mark per Question.
Incorrect Answer will carry 1/3 Negative mark per Question.

1. Options shown in green color with a tick icon are correct.
2. Chosen option on the right of the question indicates the option selected by the candidate.

Section : **RRB JE, DMS, CMA, CS, MS CBT-1**

Q.1	**In the month of July in India, at what latitude is the Inter-Tropical Convergence Zone typically situated?**
Ans	✗ 1. Near the equator
	✗ 2. Between 5°N and 10°N
	✓ 3. Around 20°N-25°N
	✗ 4. South of the equator

Q.2	**Why do stars appear to twinkle when viewed from the Earth?**
Ans	✗ 1. Reflection in the atmosphere
	✗ 2. Diffraction by clouds
	✓ 3. Refraction in the Earth's atmosphere
	✗ 4. Scattering by particles

Q.3	**What was the venue of G20 Agriculture Ministerial Meeting in 2024?**
Ans	✗ 1. Paris, France
	✗ 2. Ottawa, Canada
	✗ 3. Brussels, Belgium
	✓ 4. Cuiaba, Brazil

Q.4	**What is the process of fusion of the male and female gametes called in plants?**
Ans	✓ 1. Fertilisation
	✗ 2. Pollination
	✗ 3. Propagation
	✗ 4. Germination

Q.5	**The average price of three items of furniture is Rs 16890. If their prices are in the ratio 3:5:7, the price of the cheapest item (in Rs) is**
Ans	✗ 1. 5630
	✓ 2. 10134
	✗ 3. 7882
	✗ 4. 3378

Q.6	What should come in place of the question mark (?) in the given series based on the English alphabetical order? GUY ZNR SGK LZD ?
Ans	✗ 1. SEW
	✓ 2. ESW
	✗ 3. SWE
	✗ 4. EWS

Q.7	Why is variation in plants important for their survival and evolution?
Ans	✗ 1. It ensures that all plants produce identical offspring.
	✗ 2. It reduces competition among plants.
	✗ 3. It helps plants to grow taller and stronger.
	✓ 4. It allows plants to adapt to changing environmental conditions.

Q.8	If at same rate of interest, in 2 years, the simple interest is ₹56 and compound interest is ₹58, then what is the principal (in ₹)?
Ans	✗ 1. 387
	✗ 2. 385
	✓ 3. 392
	✗ 4. 396

Q.9	Which of the following letter-clusters should replace # and % so that the pattern and relationship followed between the letter-cluster pair on the left side of :: is the same as that on the right side of ::? # : UOK :: HBX : %
Ans	✗ 1. # = PJF, % = MGO
	✓ 2. # = PJF, % = MGC
	✗ 3. # = TJF, % = MGC
	✗ 4. # = PJF, % = NGC

Q.10	A solution has a pH of 8. If it is diluted with an equal volume of water, what will happen to its pH?
Ans	✓ 1. It will become neutral.
	✗ 2. The pH will increase.
	✗ 3. The pH will decrease.
	✗ 4. The pH will remain the same.

Q.11	Baking soda, commonly used in households, is also known by its chemical name:
Ans	✗ 1. magnesium hydroxide
	✓ 2. sodium bicarbonate
	✗ 3. calcium carbonate
	✗ 4. sodium carbonate

Q.12	Based on the English alphabetical order, three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which letter-cluster pair DOES NOT belong to that group? (Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)
Ans	✗ 1. SP-LF
	✗ 2. VS-OI
	✗ 3. FC-YS
	✓ 4. HF-AU

Black Book

Q.13	Which of the following metals will displace copper from copper sulfate solution?
Ans	✗ 1. Platinum
	✓ 2. Iron
	✗ 3. Gold
	✗ 4. Silver

Q.14	Which process ensures half the amount of DNA in reproductive cells as compared to non-reproductive cells?
Ans	✗ 1. Cytokinesis
	✗ 2. Amitosis
	✗ 3. Mitosis
	✓ 4. Meiosis

Q.15	If A's salary is 72 % more than that of B, then how much percent is B's salary less than that of A (correct to 2 decimal places)?
Ans	✗ 1. 44.19%
	✗ 2. 44.24%
	✓ 3. 41.86%
	✗ 4. 45.3%

Q.16	Washing soda is represented by $Na_2CO_3.xH_2O$. The value of 'x' is equal to:
Ans	✗ 1. 6
	✓ 2. 10
	✗ 3. 8
	✗ 4. 2

Q.17	Select the pair which follows the same pattern as that followed by the two set of pairs given below. Both pairs follow the same pattern. PMN : RPI VHS : XKN
Ans	✗ 1. TIH : VMC
	✗ 2. JPQ : LSM
	✗ 3. PTV : RWR
	✓ 4. NFF : PIA

Q.18	In Amoeba, the splitting during fission can occur _____.
Ans	✗ 1. only along a fixed plane
	✗ 2. only in one specific plane
	✗ 3. in a definite orientation related to a structure
	✓ 4. in any plane

Q.19	The Citizenship Amendment Act was enacted in 2019 and was operationalised after the rules for it were notified by the Ministry of Home Affairs on _____.
Ans	✗ 1. 11 March 2020
	✗ 2. 11 March 2022
	✗ 3. 11 March 2023
	✓ 4. 11 March 2024

Black

Q.20	B, C, E, F and H have different heights. Only C is taller than B. E is taller than H. Only two people have heights between F and C. How many people have heights between H and B?
Ans	✗ 1. Four
	✗ 2. One
	✓ 3. Two
	✗ 4. Three

Q.21	Consider a pencil dipped in water in a glass beaker. If the water is replaced by kerosene or turpentine, will the pencil appear displaced to the same extent?
Ans	✓ 1. No, the pencil will appear straight.
	✗ 2. Yes, the displacement will be the same.
	✗ 3. Yes, it will be more displaced than in water.
	✗ 4. No, the displacement will vary.

Q.22	Which of the following dynasties did NOT participate in tripartite struggle over Kannauj?
Ans	✗ 1. The Palas
	✓ 2. The Cholas
	✗ 3. The Gurjara-Pratiharas
	✗ 4. The Rashtrakutas

Q.23	The total surface area of a solid hemisphere is 191 cm^2. Its radius (in cm) is: $Take\ \pi = \frac{22}{7}$
Ans	✗ 1. $\sqrt{\frac{1345}{66}}$
	✗ 2. $\sqrt{\frac{1347}{132}}$
	✓ 3. $\sqrt{\frac{1337}{66}}$
	✗ 4. $\sqrt{\frac{1347}{66}}$

Q.24	5 is related to 26 following a certain logic. Following the same logic, 12 is related to 145. To which of the following is 13 related, following the same logic? (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g. 13 – Operations on 13 such as adding / subtracting /multiplying to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)
Ans	✗ 1. 162
	✗ 2. 172
	✓ 3. 170
	✗ 4. 168

Backbook

Q.25	People having acidity problems are treated with antacids that contain which of the following?
Ans	✗ 1. Lime water
	✓ 2. Milk of magnesia
	✗ 3. Quick lime
	✗ 4. Hydrochloric acid

Q.26	What is the general form of a combination reaction?
Ans	✗ 1. A → B + C
	✗ 2. AB → A + B
	✗ 3. AB + CD → AC + BD
	✓ 4. A + B → AB

Q.27	If 1 is added to each odd digit and 2 is subtracted from each even digit in the number 7381564, how many digits will appear more than once in the new number thus formed?
Ans	✗ 1. Two
	✗ 2. None
	✓ 3. Three
	✗ 4. One

Q.28	The greatest common divisor (GCD) and least common multiple (LCM) of two numbers are 12 and 480, respectively, and the numbers are in the ratio of 5 : 8. Find the difference between the two numbers.
Ans	✗ 1. 42
	✓ 2. 36
	✗ 3. 12
	✗ 4. 24

Q.29	Find the value of $2.3\overline{8} \div 0.5\overline{4}$.
Ans	✗ 1. $3\frac{17}{21}$
	✗ 2. $5\frac{26}{51}$
	✓ 3. $4\frac{19}{49}$
	✗ 4. $6\frac{29}{57}$

Q.30	The average price of three items of furniture is Rs 16830. If their prices are in the ratio 3:5:7, the price of the cheapest item (in Rs) is
Ans	✗ 1. 3366
	✗ 2. 5610
	✗ 3. 7854
	✓ 4. 10098

Black

Q.31	A trader claims to sell flour at a profit of 35%, but also dishonestly uses a weight which is 16% less than what is mentioned on it. Find the total percentage of profit earned by the trader. (Round the answer to the nearest whole number.)
Ans	✗ 1. 60%
	✓ 2. 61%
	✗ 3. 63%
	✗ 4. 56%

Q.32	In a certain code language, 'mountains hills rocks' is coded as 'dy ph mt', 'rocks valleys rivers' is coded as 'lp ph st' and 'rivers mountains forests' is coded as 'st bq dy'. (All the codes are two-letter codes only.) What is the code for 'valleys' in that language?
Ans	✗ 1. st
	✗ 2. ph
	✓ 3. lp
	✗ 4. dy

Q.33	If a 3210 m long train crosses a pole in 107 seconds, then find the time (in seconds) taken by the train to cross a 150 m long platform.
Ans	✗ 1. 110
	✗ 2. 114
	✓ 3. 112
	✗ 4. 106

Q.34	Which of the following Constitutional amendments inserts the Special officer for linguistic minorities, who is known as the Commissioner for Linguistic Minorities in India (CLM), to investigate all the matters relating to the safeguards provided for the linguistic minorities in India under the Constitution and report to the President?
Ans	✓ 1. 7th Constitutional Amendment Act, 1956
	✗ 2. 2nd Constitutional Amendment Act,1952
	✗ 3. 11th Constitutional Amendment Act, 1965
	✗ 4. 10th Constitutional Amendment Act, 1960

Q.35	Which of the following devices operates based on the heating effect of electric current?
Ans	✗ 1. Electric motor
	✗ 2. Transformer
	✗ 3. Generator
	✓ 4. Electric iron

Q.36	In which year was 'Indian Culture: A Compendium of Indian History, Culture and Heritage' published?
Ans	✗ 1. 2023
	✓ 2. 2021
	✗ 3. 2022
	✗ 4. 2020

Q.37	In a certain code language, 'A + B means 'A is the son of B', 'A − B means 'A is the brother of B', 'A × B means 'A is the wife of B' and 'A ÷ B means 'A is the father of B'. How is S related to H if 'S + D × F ÷ G − H'?
Ans	✗ 1. Husband
	✓ 2. Brother
	✗ 3. Father
	✗ 4. Son

Q.38	What should come in place of the question mark (?) in the given series? 29 38 51 68 89 ?
Ans	✓ 1. 114
	✗ 2. 116
	✗ 3. 115
	✗ 4. 113

Q.39	Which state hosted the 61st edition of the Indian National Chess Championship in 2024?
Ans	✗ 1. Karnataka
	✗ 2. Himachal Pradesh
	✗ 3. Tamil Nadu
	✓ 4. Haryana

Q.40	In a series circuit, if one of the resistors is removed or broken, the current in the circuit will _____.
Ans	✗ 1. decrease
	✗ 2. increase
	✓ 3. become zero
	✗ 4. stay the same

Q.41	What is the shape of the magnetic field lines inside a solenoid?
Ans	✗ 1. Elliptical
	✓ 2. Straight and parallel
	✗ 3. Randomly oriented
	✗ 4. Circular

Q.42	Which of the following articles deals with elections to the House of the People and to the legislative assemblies of state to be on the basis of adult suffrage?
Ans	✗ 1. 318
	✗ 2. 352
	✗ 3. 340
	✓ 4. 326

Q.43	If the mean proportional of P and 125 is 100, then find the value of P.
Ans	✗ 1. 82
	✗ 2. 77
	✓ 3. 80
	✗ 4. 79

Black book

Q.44	A number when increased by 50 %', gives 2880. The number is:
Ans	✔ 1. 1920
	✘ 2. 960
	✘ 3. 3840
	✘ 4. 5760

Q.45	Refer to the given number, symbol series and answer the question that follows. Counting to be done from left to right only. (Left) $ 7 & 4 2 & % 4 6 @ 8 Ω 9 # 6 * £ 5 = 2 (Right) How many such symbols are there each of which is immediately preceded by an odd number and immediately followed by an even number?
Ans	✔ 1. Three
	✘ 2. Two
	✘ 3. Four
	✘ 4. One

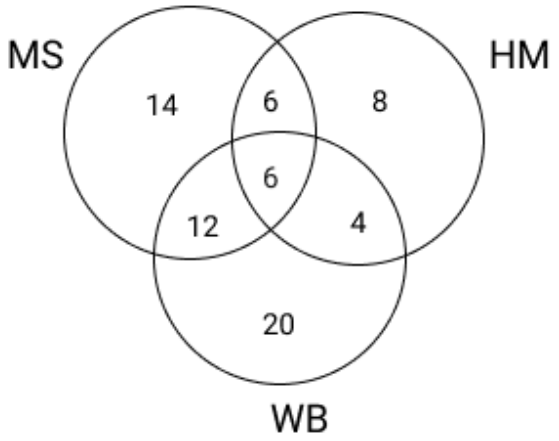
Q.46	A man sold an article for ₹360 by first giving a d% discount on its marked price, and then another discount having the same nominal value (in ₹). If the marked price of the article is ₹2250, then what is the value of d?
Ans	✘ 1. 45
	✘ 2. 41
	✘ 3. 38
	✔ 4. 42

Q.47	Which two numbers should be interchanged to make the following equation correct? 58 + (36× 4)÷ 3 + 6× 8 −12 = 86 (Note: Interchange should be done of the entire number and not individual digits of a given number.)
Ans	✘ 1. 12 and 8
	✔ 2. 36 and 12
	✘ 3. 3 and 6
	✘ 4. 4 and 3

Q.48	A and B can do a piece of work in 2 days and 42 days, respectively. The number of days [Correct to one decimal place] required to complete the work if both A and B work together is:
Ans	✘ 1. 3.3
	✔ 2. 1.9
	✘ 3. 1.3
	✘ 4. 5.1

Q.49	If 546 apples were distributed among Neeraj, Vidya, and Mohan in th
Ans	✘ 1. 202
	✔ 2. 182
	✘ 3. 172
	✘ 4. 192

Black

Q.50	**Study the given diagram carefully and answer the question that follows. The numbers in different sections indicate the number of persons who own the given brands of car. How many person own both MS and WB but not HM?** **(NOTE: You have to take the given data to be true even if they seem to be at variance from commonly known facts.)** 
Ans	✗ 1. 34
	✗ 2. 8
	✓ 3. 12
	✗ 4. 18

Q.51	**What are the units of inheritance, which Mendel referred to as 'factors,' now called?**
Ans	✗ 1. Chromosomes
	✗ 2. DNA
	✓ 3. Genes
	✗ 4. Traits

Q.52	**The magnetic field inside a solenoid:**
Ans	✓ 1. is the same at all points
	✗ 2. is maximum at the centre and minimum at the edge
	✗ 3. is zero at the centre
	✗ 4. varies with distance from the edge

Q.53	**Which of the following modes of asexual reproduction is used by unicellular organisms exclusively?**
Ans	✗ 1. Fragmentation
	✓ 2. Binary fission
	✗ 3. Regeneration
	✗ 4. Sporulation

Q.54	**Pankaj starts from Point A and drives 12 km towards east. He then takes a left turn, drives 18 km, turns left and drives 19 km. He then takes a left turn and drives 21 km. He takes a final left turn, drives 7 km and stops at Point P. How far (shortest distance) and towards which direction should he drive in order to reach Point A again? (All turns are 90° turns only unless specified.)**
Ans	✗ 1. 5 km to the north
	✗ 2. 1 km to the north
	✓ 3. 3 km to the north
	✗ 4. 4 km to the north

Black book

Q.55	A, B and C invest sum in the ratio 76 : 37 : 52 respectively. If they earned total profit of ₹3850 at the end of year, then what is the difference between share of B and C?
Ans	✗ 1. ₹203
	✓ 2. ₹350
	✗ 3. ₹305
	✗ 4. ₹360

Q.56	Which law of refraction states that light bends due to a change in speed when passing from one medium to another?
Ans	✓ 1. Snell's law
	✗ 2. Fermat's principle
	✗ 3. Huygens' principle
	✗ 4. Law of reflection

Q.57	Which of the following statements is correct about equilibrium?
Ans	✗ 1. Equilibrium is the situation where there is less tendency for change.
	✗ 2. Equilibrium is the situation where there is more tendency for change.
	✓ 3. Equilibrium is the situation where there is no tendency for any change.
	✗ 4. Equilibrium is the situation where there is a tendency for change.

Q.58	Select the letter-cluster from among the given options that can replace the question mark (?) in the following series. GEC BZX WUS RPN ?
Ans	✓ 1. MKI
	✗ 2. MKJ
	✗ 3. MJK
	✗ 4. MIK

Q.59	$\frac{(a^4 \times b^3 \times c^4)}{(a^9 \times b^4 \times c^8)}$ in simplified form is:
Ans	✗ 1. $(a^7) \times (b^9) \times (c^8)$
	✓ 2. $(a^{-5}) \times (b^{-1}) \times (c^{-4})$
	✗ 3. $(a^7) \times (b^8) \times (c^{-9})$
	✗ 4. $(a^{-9}) \times (b^{-2}) \times (c^{-2})$

Q.60	Which major Indian port has become the first to operate under a Public-Private Partnership (PPP) model?
Ans	✗ 1. Paradip Port
	✓ 2. Jawaharlal Nehru Port
	✗ 3. Mundra Port
	✗ 4. New Mangaluru Port

Black

Q.61	The age of some students is given in years as 22, 23, 26, 28, 24, 29, 23, 27, 25 and 21. The median age (in years) of the students is:
Ans	✗ 1. 25
	✗ 2. 23.5
	✗ 3. 24
	✓ 4. 24.5

Q.62	Mahatma Gandhi started his famous 'Salt march' accompanied by _____ of his trusted volunteers.
Ans	✗ 1. 39
	✗ 2. 94
	✓ 3. 78
	✗ 4. 51

Q.63	Two taps can fill a cistern in 2 hours and 51 hours respectively. A third tap can empty it in 51 hours. How long (in hours) will it take to fill the empty cistern, if all of them are opened together?
Ans	✗ 1. 5
	✗ 2. 4
	✗ 3. 3
	✓ 4. 2

Q.64	What should come in place of the question mark (?) in the given series? 4 24 120 480 ? 2880
Ans	✓ 1. 1440
	✗ 2. 1080
	✗ 3. 1220
	✗ 4. 1360

Q.65	Twelve years ago, the age of Reena's mother was three times the age of Reena. Two years hence, the mother's age will be 2 times the age of Reena. Find the ratio of the present ages of Reena and her mother.
Ans	✗ 1. 5 : 9
	✗ 2. 27 : 13
	✓ 3. 13 : 27
	✗ 4. 9 : 11

Q.66	When a solution contains an equal number of H^+ and OH^- ions, then the pH of the solution is:
Ans	✗ 1. pH < 3
	✗ 2. pH > 3 but < 5
	✓ 3. pH = 7
	✗ 4. pH > 12

Q.67	Which among the following organisms reproduce by regeneration method?
Ans	✗ 1. Rhizopus
	✗ 2. Yeast
	✗ 3. Bryophyllum
	✓ 4. Planaria

Black

Q.68	Seven people, B, D, E, F, P, Q and R, are sitting in a row, facing north. Only three people sit between R and E. F sits to the immediate left of E. No one sits to the right of B. Only two people sit between B and F. P sits to the immediate right of Q. How many people sit between D and P?
Ans	✗ 1. Four
	✗ 2. Three
	✗ 3. One
	✓ 4. Two

Q.69	Solve the following linear equation. 2x − y + z = 8, x + y − z = 10, x + y + 2z = 12
Ans	✗ 1. $x=\frac{2}{3},\ y=-6,\ z=\frac{14}{3}$
	✗ 2. $x=-6,\ y=\frac{-14}{3},\ z=\frac{1}{3}$
	✓ 3. $x=6,\ y=\frac{14}{3},\ z=\frac{2}{3}$
	✗ 4. $x=\frac{-1}{3},\ y=6,\ z=\frac{14}{3}$

Q.70	119 is related to 205 following a certain logic. Following the same logic, 145 is related to 231. To which of the given options is 132 related, following the same logic? (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g. 13 – Operations on 13 such as adding/subtracting/multiplying to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)
Ans	✗ 1. 228
	✗ 2. 215
	✗ 3. 221
	✓ 4. 218

Q.71	The larger of two supplementary angles is 22° more than the smaller. The smaller angle (in degree) is:
Ans	✗ 1. 84
	✓ 2. 79
	✗ 3. 88
	✗ 4. 86

Q.72	The marks scored by 10 students are given below. 18, 13, 14, 18, 14, 17, 15, 11, 13, 18 The mode of the data is:
Ans	✗ 1. 14
	✗ 2. 11
	✓ 3. 18
	✗ 4. 13

Q.73	Why is asexual reproduction advantageous for single-celled organisms?
Ans	✗ 1. It requires a mate.
	✓ 2. It allows rapid reproduction in favourable conditions.
	✗ 3. It prevents overcrowding.
	✗ 4. It increases genetic variability.

Black book

Q.74	A shopkeeper bought an article for ₹740. At what price (in ₹) should he sell the article to make 30% profit?
Ans	✗ 1. 950
	✗ 2. 518
	✗ 3. 974
	✓ 4. 962

Q.75	Which of the following is an example of regeneration in plants?
Ans	✗ 1. Binary fission in bacteria
	✗ 2. Budding in hydra
	✓ 3. Growth of a new plant from a cutting
	✗ 4. Reproduction in humans

Q.76	The sirens of three companies sound together initially and then continue to sound at intervals of 12 minutes, 16 minutes, and 20 minutes, respectively. Over a period of 16 hours and 12 minutes from the time they first sound together, how many times will they sound simultaneously?
Ans	✗ 1. 3 times
	✓ 2. 5 times
	✗ 3. 4 times
	✗ 4. 6 times

Q.77	Which city of India organised the World Sustainable Development Summit 2024?
Ans	✗ 1. Jaipur
	✗ 2. Mumbai
	✗ 3. Hyderabad
	✓ 4. New Delhi

Q.78	Which reactants are used to prepare bleaching powder?
Ans	✗ 1. Chlorine and water
	✗ 2. Lime and sulphuric acid
	✓ 3. Chlorine gas and dry calcium hydroxide
	✗ 4. Calcium hydroxide and hydrochloric acid

Q.79	If the distance between A and B is 530 Km. From A, Namit goes to B with speed 37 km/h and return to A with the speed 77 km/h. Find the average speed of Namit.(rounded off to two decimal place)
Ans	✗ 1. 44.54 km/h
	✗ 2. 46.51 km/h
	✓ 3. 49.98 km/h
	✗ 4. 44.47 km/h

Q.80	What does the thumb represent in Fleming's Right-Hand Rule?
Ans	✗ 1. Direction of magnetic field
	✗ 2. Direction of induced current
	✓ 3. Direction of motion
	✗ 4. Direction of voltage

Black

Q.81	A concave mirror can form a real, inverted and magnified image when the object is placed _____.
Ans	✔ 1. between the focus and the centre of curvature
	✘ 2. beyond the centre of curvature
	✘ 3. between the pole and the focus
	✘ 4. at the pole

Q.82	G, H, I, J, K, L and M live on seven different floors of the same building. The lowermost floor in the building is numbered 1, the floor above it, number 2 and so on, till the topmost floor is numbered 7. H lives on an even numbered floor but not on the second floor. Only three people live between H and M. J lives on one of the floors below H but immediately above M. G lives on one of floors below J. Only three people live between G and K. L lives on one of the floors above J but below I. Who lives on the fifth floor?
Ans	✘ 1. L
	✘ 2. H
	✔ 3. K
	✘ 4. M

Q.83	The product of the reaction between ethanol and acetic acid is:
Ans	✘ 1. acetate
	✘ 2. ethanal
	✘ 3. methanol
	✔ 4. ester

Q.84	Seven boxes, A, B, C, D, X, Y and Z, are kept one over the other but not necessarily in the same order. Only three boxes are kept above B. Only one box is kept between C and B. Only three boxes are kept between C and Y. Y is kept at some place above B. Z is kept immediately below Y. A is kept at one of the places above X. D is not kept immediately above or below C. Which box is kept at the lowermost position?
Ans	✘ 1. B
	✘ 2. C
	✔ 3. X
	✘ 4. Z

Q.85	According to Mendel, which trait appeared in F1 progeny on crossing tall pea plants with short pea plants?
Ans	✘ 1. Short
	✔ 2. Tall
	✘ 3. Medium
	✘ 4. Dwarf

Q.86	In a certain code language, 'pillow blanket bed' is coded as 'ma ph st', 'bed window door' is coded as 'cd le ma' and 'door pillow wall' is coded as 'st bq cd'. (All the codes are two-letter codes only.) What is the code for 'wall' in that language?
Ans	✔ 1. bq
	✘ 2. le
	✘ 3. st
	✘ 4. cd

Black book

Q.87	Based on the English alphabetical order, three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which letter-cluster pair DOES NOT belong to that group? (Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)
Ans	✗ 1. GM – DJ
	✗ 2. QW – NT
	✓ 3. TY – PU
	✗ 4. EK – BH

Q.88	The current ages of A and B add up to 36 years. Four years ago, the age of A was three times than that of B. What is the current age of A?
Ans	✗ 1. 30 years
	✓ 2. 25 years
	✗ 3. 20 years
	✗ 4. 35 years

Q.89	In the context of Buddhist architecture, what is a ‘chaitya’?
Ans	✗ 1. A type of stupa
	✗ 2. A residential space for monks
	✗ 3. A decorative column
	✓ 4. A hall for prayer and assembly

Q.90	Who launched ‘Create in India Challenge-Season One’ in New Delhi on 22 August 2024, the run-up to the World Audio Visual and Entertainment Summit?
Ans	✓ 1. Ashwini Vaishnaw
	✗ 2. Narendra Modi
	✗ 3. Nitin Gadkari
	✗ 4. Amit Shah

Q.91	Refer to the following number and symbol series and answer the question that follows. Counting to be done from left to right only. (Left) 5 # * 7 9 % 2 & 1 > 6 @ 3 ^ 4 $ > 8 (Right) How many such number are there which are immediately preceded by a number and also immediately followed by another number?
Ans	✓ 1. 0
	✗ 2. 1
	✗ 3. 2
	✗ 4. 3

Q.92	A question is given, followed by two statements labelled I and II. Identify which of the statements is/are sufficient to answer the question. A, B, C, D and E are sitting in a straight line facing north. Who sits on the extreme left end? (I) D sits second to the right of C. (II) Exactly two people sit between B and D.
Ans	✗ 1. Data in Statement II alone is sufficient to answer the question, while data in Statement I is not.
	✓ 2. Both Statements I and II put together are not sufficient to answer the question.
	✗ 3. Both Statements I and II put together (and not independently) are sufficient to answer the question.
	✗ 4. Data in Statement I alone is sufficient to answer the question, while data in Statement II is not.

Black book

Q.93	**Where did Dr. Jitendra Singh, Union Minister of State for Science and Technology, inaugurate India's first Demonstration Facility for Biopolymers in October 2024?**
Ans	✗ 1. Hyderabad
	✗ 2. Bhopal
	✗ 3. Chennai
	✓ 4. Pune

Q.94	**If the average of 9 numbers is 17 and one number is removed, the average of the remaining 8 numbers becomes 15. What is the value of the removed number?**
Ans	✗ 1. 35
	✗ 2. 37
	✓ 3. 33
	✗ 4. 39

Q.95	In $\triangle$ ABC, $DE \parallel AC$, where D and E are the points on sides AB and BC, respectively. If BD = 8 cm and AD = 7 cm, then what is the ratio of the area of $\triangle$ BDE to the trapezium ADEC?
Ans	✗ 1. 162:65
	✗ 2. 65:162
	✓ 3. 64:161
	✗ 4. 161:64

Q.96	**Find the simple interest (in closest integral ₹) on ₹4000 at 5.25% per annum rate of interest for the period from 4 February 2024 to 5 April 2024**
Ans	✗ 1. 36
	✗ 2. 33
	✓ 3. 35
	✗ 4. 34

Q.97	**What is the resistivity (ρ) of a material?**
Ans	✗ 1. The amount of current a material can carry
	✗ 2. The product of voltage and current
	✗ 3. The same as its resistance
	✓ 4. A measure of how strongly a material opposes the flow of electric current

Q.98	**When sodium carbonate (Na_2CO_3) is dissolved in water, the resulting solution becomes:**
Ans	✗ 1. neutral
	✓ 2. basic
	✗ 3. acidic
	✗ 4. highly reactive with sodium chloride

Q.99	**Which of the following letter-clusters should replace # and % so that the pattern and relationship followed between the letter-cluster pair on the left side of :: is the same as that on the right side of :: ?** **# : NJR :: OKS : %**
Ans	✗ 1. # = LHP, % = QMV
	✗ 2. # = LHO, % = QMU
	✗ 3. # = LHP, % = QNU
	✓ 4. # = LHP, % = QMU

Black

Q.100	Find the value of $\sin^2 63° + \sin^2 27° + \cos^2 17° + \cos^2 73° + \cos^2 90°$.
Ans	✔ 1. 2
	✘ 2. 0
	✘ 3. 1
	✘ 4. −1

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Blackb

रेल भर्ती बोर्ड / RAILWAY RECRUITMENT BOARDS

सी ई एन आर आर बी - ०३/२०२४ - CEN RRB - 03/2024

Test Center Name	iON Digital Zone iDZ Sivathapuram
Test Date	18/12/2024
Test Time	4:30 PM - 6:00 PM
Subject	RRB JE DMS CMA CS MS

*** Note**
Correct Answer will carry 1 mark per Question.
Incorrect Answer will carry 1/3 Negative mark per Question.

1. Options shown in green color with a tick icon are correct.
2. Chosen option on the right of the question indicates the option selected by the candidate.

Section : **RRB JE, DMS, CMA, CS, MS CBT-1**

Q.1	**If 'P' stands for '×', 'Q' stands for '÷', 'R' stands for '–' and 'S' stands for '+', what will come in place of the question mark (?) in the following equation?** **35 S 49 R 6 P 3 P 2 S (72 Q 4) = ?**
Ans	✗ 1. 50
	✓ 2. 66
	✗ 3. 84
	✗ 4. 98

Q.2	**Which of the following is an example of exothermic combination reaction?**
Ans	✓ 1. Quick lime dissolved in water
	✗ 2. Photosynthesis
	✗ 3. Ammonium chloride dissolved in water
	✗ 4. Respiration

Q.3	**If 330 persons can complete the construction of a shopping complex in 50 days, how many persons are required to complete the same work in 30 days?**
Ans	✗ 1. 505
	✗ 2. 198
	✗ 3. 450
	✓ 4. 550

Q.4	**A theater sold 500 tickets to a concert. The tickets for adults cost $20 each, and the tickets for children cost $12 each. If the total revenue was $8,000, how many adult tickets were sold?**
Ans	✗ 1. 300
	✗ 2. 200
	✗ 3. 350
	✓ 4. 250

Q.5	If the interest earned during the 2nd year on a certain sum is ₹4719, and the rate of interest is 10% per annum compounded annually, then the sum is:
Ans	✔ 1. ₹42900
	✘ 2. ₹42045
	✘ 3. ₹42445
	✘ 4. ₹41905

Q.6	Based on the English alphabetical order, three of the following four letter-clusters are alike in a certain way and thus form a group. Which letter-cluster DOES NOT belong to that group? (Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)
Ans	✔ 1. ZWU
	✘ 2. IEB
	✘ 3. UQN
	✘ 4. NJG

Q.7	Each of P, Q, R, S, T, U and V has an exam on a different day of a week starting from Monday and ending on Sunday of the same week. Only five people have exams after P. Only three people have exams before T. Q has the exam immediately after V but before U. S does not have the exam on Monday. How many people have exams between Q and R?
Ans	✔ 1. Four
	✘ 2. Three
	✘ 3. Two
	✘ 4. One

Q.8	The Indian Space Research Organisation (ISRO) celebrated its 55th foundation day on 15 August 2024 by launching which of the following satellites?
Ans	✘ 1. EOS-04
	✔ 2. EOS-08
	✘ 3. EOS-06
	✘ 4. EOS-07

Q.9	Which of the following bacterial infections is considered a sexually transmitted disease (STD)?
Ans	✘ 1. Pneumonia
	✔ 2. Gonorrhoea
	✘ 3. Typhoid
	✘ 4. Tuberculosis

Q.10	What should come in place of the question mark (?) in the given series? 34 34 46 46 58 58 70 70 ?
Ans	✘ 1. 84
	✘ 2. 88
	✘ 3. 90
	✔ 4. 82

Q.11	An electric refrigerator rated 400 W operates 8 hours/day. What is the cost of the energy to operate it for 30 days at ₹3.00 per kW h?
Ans	✘ 1. ₹400
	✔ 2. ₹288
	✘ 3. ₹36
	✘ 4. ₹9.6

Black

Q.12	Which of the following is NOT true about fragmentation?
Ans	✔ 1. It is a form of sexual reproduction.
	✘ 2. It involves breaking of the organism into parts.
	✘ 3. Each fragment can grow into a complete individual.
	✘ 4. It requires the organism to be multicellular.

Q.13	When sodium sulphate solution is added to barium chloride solution, precipitate of _____ is formed.
Ans	✘ 1. sodium chloride
	✘ 2. barium hydrogen sulphate
	✘ 3. sodium hydrogen sulphate
	✔ 4. barium sulphate

Q.14	What type of image does a concave lens form when an object is placed at infinity?
Ans	✘ 1. Virtual, erect and larger
	✘ 2. Real, inverted and same size
	✔ 3. Virtual, erect and point sized
	✘ 4. Real, erect and point sized

Q.15	The average of seven consecutive odd numbers is 41. What is the smallest of these numbers?
Ans	✘ 1. 39
	✘ 2. 33
	✔ 3. 35
	✘ 4. 37

Q.16	Chiang Mai city, the most polluted city in the world as of March 2024, is located in which country?
Ans	✘ 1. China
	✘ 2. Vietnam
	✔ 3. Thailand
	✘ 4. Japan

Q.17	The front face of a circular loop of a wire is the North Pole; the direction of current in this face of the loop will be:
Ans	✘ 1. clockwise
	✘ 2. towards south
	✘ 3. towards north
	✔ 4. anti-clockwise

Q.18	What does Family Planning aim at?
Ans	✘ 1. Population growth
	✘ 2. Preventing all pregnancies by recommending abortion
	✔ 3. Population control
	✘ 4. Increasing pollution

Black

Q.19	The ratio of numbers of girls and boys participating in sports of a school is 1 : 5. If the number of girls is 239, determine the number of boys participating in the sports.
Ans	✗ 1. 1215
	✗ 2. 1225
	✓ 3. 1195
	✗ 4. 1170

Q.20	Refer to the following number and symbol series and answer the question that follows. Counting to be done from left to right only. (Left) 3 & ^ 5 7 # 9 % 8 * 4 < 1 $ 2 @ * 6 (Right) How many such symbols are there which are immediately preceded by a number and also immediately followed by another number?
Ans	✓ 1. 5
	✗ 2. 4
	✗ 3. 3
	✗ 4. 2

Q.21	Find the total time taken by boat to travel upstream and downstream, if the distance travel in each direction (upstream and downstream) is 495km. If speed of boat is 32 km/h and speed of current is 23 km/h.
Ans	✗ 1. 56 hours
	✗ 2. 72 hours
	✓ 3. 64 hours
	✗ 4. 62 hours

Q.22	Which of the following kinds of demand exists in the monopolistic competition for the product of an individual firm?
Ans	✓ 1. Relatively elastic
	✗ 2. Perfectly elastic
	✗ 3. Relatively inelastic
	✗ 4. Perfectly inelastic

Q.23	A rose plant with white flowers was planted in soil by stem cutting without any grafting. The new plant produced similar white flowers. What does it indicate?
Ans	✗ 1. Stem cutting is a type of sexual reproduction, so there was no variation.
	✗ 2. White flowers are the only type of variety available in rose.
	✗ 3. White flowers look good so gardeners plant such roses.
	✓ 4. Stem cutting is a type of asexual reproduction, so there was no variation.

Q.24	Neutralisation reaction is a type of:
Ans	✓ 1. double displacement reaction
	✗ 2. decomposition reaction
	✗ 3. displacement reaction
	✗ 4. combination reaction

Q.25	When washing soda is exposed to hot atmosphere for a long time, it:
Ans	✗ 1. gains water molecules and dissolves in them
	✗ 2. gains heat from the Sun and becomes dry
	✓ 3. loses water molecules and becomes powdery
	✗ 4. loses water molecules but remains in crystal form

black book

Q.26	Evaluate: 33 ÷ 9 × 3 - 2 × 3
Ans	✔ 1. 5
	✘ 2. 8
	✘ 3. 4
	✘ 4. 7

Q.27	In a certain code language, 'A + B' means 'A is the son of B', 'A − B' means 'A is the brother of B', 'A × B' means 'A is the wife of B' and 'A ÷ B' means 'A is the father of B'. How is S related to H if 'S − D × F + G ÷ H'?
Ans	✘ 1. Wife's brother
	✘ 2. Wife's father
	✘ 3. Brother's wife's father
	✔ 4. Brother's wife's brother

Q.28	Find the mean of the following frequency distribution. x: 5, 6, 15, 9, 8 f: 10, 5, 8, 10, 9
Ans	✔ 1. $8\frac{13}{21}$
	✘ 2. $7\frac{13}{21}$
	✘ 3. $9\frac{13}{21}$
	✘ 4. $6\frac{13}{21}$

Q.29	Which of the following letter-number clusters will replace the question mark (?) in the given series to make it logically complete? HKN 7, CFI 13, XAD 19, SVY 25, NQT 31, ?
Ans	✔ 1. ILO 37
	✘ 2. ILO 36
	✘ 3. JLO 37
	✘ 4. ILP 37

Q.30	In a certain code, 'butter milk ghee' is coded as 'dy la mt', 'biscuit ghee salad' is coded as 'bz qp la' and 'salad butter egg' is coded as 'st bz dy'. All the codes are two-letter codes only. What is ghee coded as?
Ans	✘ 1. qp
	✘ 2. mt
	✔ 3. la
	✘ 4. bz

Black

Q.31	Which of the following is the female germ cell in plants?
Ans	✗ 1. Cells in the centre of ovule
	✗ 2. Cell opposite to egg cell in an ovule
	✓ 3. Egg cell
	✗ 4. Cells outside the ovule

Q.32	What unique feature do the sex chromosomes in humans have compared to other chromosomes?
Ans	✗ 1. They are the largest chromosomes in the body.
	✗ 2. They are always perfectly paired.
	✓ 3. They are not always a perfect pair in males.
	✗ 4. They are identical in males and females.

Q.33	A company earns a profit (in ₹) that is distributed among the company's three partners in the ratio of 4 : 12 : 5. If the difference between the smallest and the largest shares is ₹20208, the total profit (in ₹) of the company is:
Ans	✗ 1. 53097
	✓ 2. 53046
	✗ 3. 53096
	✗ 4. 53060

Q.34	9 men can do a piece of work in 21 days. The number of men required to complete the same work in 3 days is:
Ans	✓ 1. 63
	✗ 2. 64
	✗ 3. 67
	✗ 4. 62

Q.35	In a displacement reaction, if a more reactive metal displaces a less reactive metal from its salt solution, what is the result?
Ans	✗ 1. The less reactive metal is displaced and the more reactive metal becomes a part of the compound
	✓ 2. Formation of an insoluble salt
	✗ 3. The less reactive metal is displaced and solidifies
	✗ 4. The more reactive metal remains unchanged

Q.36	Radha thinks of a number and subtracts $6\frac{3}{5}$ from it. She multiplies th she thought. Find the number.
Ans	✓ 1. 11
	✗ 2. 12
	✗ 3. 13
	✗ 4. 14

Q.37	If A's salary is 31 % more than that of B, then how much percent is B's salary less than that of A (correct to 2 decimal places)?
Ans	✗ 1. 21.74%
	✓ 2. 23.66%
	✗ 3. 27.46%
	✗ 4. 21.53%

Black

Q.38	**Which of the following is NOT a function of the Prime Minister in India?**
Ans	✗ 1. Power to recommend for dissolution of the Parliament
	✗ 2. Removal of Ministers
	✓ 3. Appointment of Supreme Court judges
	✗ 4. Formation of the Council of Ministers

Q.39	**An unsaturated carbohydrate that has a double bond is:**
Ans	✗ 1. C_3H_4
	✗ 2. C_3H_8
	✗ 3. C_2H_2
	✓ 4. C_3H_6

Q.40	**Select the letter-cluster pair that best represents a similar relationship to the one expressed in the pairs of letter-clusters given below.** **GHO : LGM** **HIN : MHL**
Ans	✗ 1. JJS : JIR
	✗ 2. MIH : MHE
	✓ 3. NCL : SBJ
	✗ 4. ORK : OQM

Q.41	**What happens when sodium hydroxide reacts with copper (II) sulfate solution?**
Ans	✓ 1. Copper(II) hydroxide precipitates.
	✗ 2. Sodium sulfate is formed.
	✗ 3. No reaction occurs.
	✗ 4. Copper metal is deposited.

Q.42	**Which of the following plants propagates through runners?**
Ans	✓ 1. Strawberry
	✗ 2. Rose
	✗ 3. Jasmine
	✗ 4. Potato

Q.43	**What was the venue of the19th annual meeting of the Secretaries of the Security Councils of the Shanghai Cooperation Organization (SCO)?**
Ans	✗ 1. New Delhi, India
	✓ 2. Astana, Kazakhstan
	✗ 3. Kathmandu, Nepal
	✗ 4. Dhaka, Bangladesh

Q.44	**Who made history by becoming the oldest Indian to swim across the English Channel in August 2024?**
Ans	✗ 1. Srihari Nataraj
	✓ 2. Siddhartha Agarwal
	✗ 3. Virdhawal Khade
	✗ 4. Suyash Jadhav

Black book

Q.45	A pipe can fill a tank in 18 hours. Another pipe can empty the filled tank in 21 hours. If both the pipes are opened simultaneously, then the time (in hours) in which the tank will be filled is:
Ans	✗ 1. 128
	✗ 2. 127
	✗ 3. 129
	✓ 4. 126

Q.46	A trader lost 10% by selling a shirt for ₹850. He will gain x%' by selling it for ₹1530, the value of x is:
Ans	✗ 1. 72
	✗ 2. 52
	✗ 3. 77
	✓ 4. 62

Q.47	A man walks to a viewpoint and returns to the starting point by his car maintaining constant speed and thus takes a total time of 9 hours 15 minutes. He would have gained 2 hours by driving both ways. How long would it have taken for him to walk both ways with same walking speed?
Ans	✗ 1. 12 hours 30 minutes
	✗ 2. 11 hours 45 minutes
	✓ 3. 11 hours 15 minutes
	✗ 4. 10 hours 15 minutes

Q.48	According to clause (2) of Article 239A, any law created by the Parliament for Puducherry shall NOT be considered an amendment to the Constitution for the purposes of which Article?
Ans	✓ 1. Article 368
	✗ 2. Article 371
	✗ 3. Article 356
	✗ 4. Article 370

Q.49	Which of the following letter-clusters should replace # and % so that the pattern and relationship followed between the letter-cluster pair on the left side of :: is the same as that on the right side of ::? # : WZB :: BEG : %
Ans	✗ 1. # = FHJ, % = TWY
	✗ 2. # = EMJ, % = TWY
	✗ 3. # = EHJ, % = TWI
	✓ 4. # = EHJ, % = TWY

Q.50	A gardener wants to grow potato plants. He had put a potato with buds (eyes) in the soil. He succeeded to get a new potato plant because:
Ans	✗ 1. potatoes can be grown by root cuttings
	✓ 2. vegetative propagation is by buds (eyes)
	✗ 3. there are no other plant species in that area
	✗ 4. there was no animal to eat the potato buds

Q.51	Simplify the given expression. (1 + cos A) (cosec A − cot A)
Ans	✗ 1. cosec A
	✗ 2. sec A
	✗ 3. tan A
	✓ 4. sin A

Q.52	**Nita is pregnant, but loves to eat junk food. Her doctor advised her to eat salads and fruits. The reason for this advice is:**
Ans	✗ 1. junk food is costly in comparison to salad and fruits
	✓ 2. the nutrients in the mother's blood nourishes the growing baby
	✗ 3. junk food is tasty, but leads to obesity
	✗ 4. the mother's blood has no role in the growth of a baby

Q.53	**Find the simple interest (in closest integral ₹) on ₹3000 at 8% per annum rate of interest for the period from 23 February 2024 to 24 April 2024**
Ans	✗ 1. 39
	✗ 2. 41
	✓ 3. 40
	✗ 4. 38

Q.54	**A milk man has 80 litres milk in one container and 68 litres milk in another container. Find the maximum capacity of a container, which can measure milk of either container exact number of times.**
Ans	✓ 1. 4 litres
	✗ 2. 2 litres
	✗ 3. 5 litres
	✗ 4. 6 litres

Q.55	**In which year was 'Reflections on Mughal Art & Culture' published?**
Ans	✗ 1. 2020
	✗ 2. 2019
	✓ 3. 2021
	✗ 4. 2022

Q.56 The mean marks of the following distribution is:

Marks Obtained	No. of Students
28	8
12	12
57	18
85	13

Ans	✗ 1. 53
	✗ 2. 39
	✗ 3. 43
	✓ 4. 49

Q.57	**Hangul, also known as Kashmir Stag, can be found in _____.**
Ans	✓ 1. Dachigam
	✗ 2. Chandoli
	✗ 3. Dudhwa
	✗ 4. Campbell Bay

Black

Q.58	Which UNESCO World Heritage Site is a cave complex with stunning paintings and sculptures, located in Maharashtra?
Ans	✔ 1. Ajanta Caves
	✘ 2. Elephanta Caves
	✘ 3. Bhimbetka Caves
	✘ 4. Badami Caves

Q.59	A cube of side 5 cm is cut into smaller cubes of side 1 cm. What is the ratio of the total surface area of the larger cube and the sum of the total surfaces of all the smaller cubes?
Ans	✘ 1. 2 : 5
	✔ 2. 1 : 5
	✘ 3. 1 : 3
	✘ 4. 2 : 3

Q.60	B, C, E, F and H have different heights. F is taller than E but shorter than B. E is taller than H. C is taller than H. More than two people are taller than C. How many people are taller than H?
Ans	✘ 1. One
	✘ 2. Three
	✘ 3. Two
	✔ 4. Four

Q.61	Seven people, W, X, Y, Z, E, F and G, are sitting in a row, facing north. Only two people sit to the right of Y. Only two people sit between Y and F. Only two people sit between E and W. W sits to the immediate left of Y. Z sits to the immediate right of X. Who sits at the third position from the left end of the row?
Ans	✘ 1. W
	✘ 2. Y
	✔ 3. G
	✘ 4. Z

Q.62	In a certain code language, 'pen pencil eraser' is coded as 'qp fq pw', 'pencil crayon box' is coded as 'bz er qp' and 'box pen board' is coded as 'er bq fg'. (All the codes are two-letter coded only.) What is the code for 'pencil' in that language?
Ans	✘ 1. er
	✘ 2. bz
	✘ 3. fq
	✔ 4. qp

Q.63	When 268 is added to 6K8, the result is 9P6. What is the least possible value of K and P for which 9P6 is divisible by 3?
Ans	✔ 1. K=3; P=0
	✘ 2. K=0; P=3
	✘ 3. K=6; P=9
	✘ 4. K=4; P=6

Black Book

Q.64	A lens has _____ principal foci.
Ans	✗ 1. 4
	✗ 2. 3
	✗ 3. 1
	✓ 4. 2

Q.65	What should come in place of the question mark (?) in the given series? 85 94 108 127 151 ?
Ans	✗ 1. 170
	✗ 2. 175
	✓ 3. 180
	✗ 4. 185

Q.66	What should come in place of the question mark (?) in the given series based on the English alphabetical order? HFC JHE LJG NLI ?
Ans	✗ 1. PNL
	✓ 2. PNK
	✗ 3. PMK
	✗ 4. PML

Q.67	When hydrogen gas is passed through heated black copper (II) oxide, it:
Ans	✓ 1. reduces to form brownish copper metal
	✗ 2. reduces to form bluish copper solution
	✗ 3. oxidises to form brownish copper metal
	✗ 4. oxidises to form bluish copper solution

Q.68	Which of the following is NOT a property of a regular polygon?
Ans	✗ 1. All sides are of equal length.
	✗ 2. Angles at the centre by all sides are equal.
	✗ 3. The angle made by each side at the centre is 90°, if it is a regular polygon with four sides.
	✓ 4. The angle made by each side at the centre is 60°, if it is a regular polygon with eight sides.

Q.69	Article 24 of the Indian Constitution prohibits the employment of children below the age of _____ years in any factory, mine or other hazardous activities.
Ans	✓ 1. 14
	✗ 2. 16
	✗ 3. 12
	✗ 4. 18

Q.70	Who was the scientist credited with the discovery of electromagnetic induction?
Ans	✗ 1. Thomas Edison
	✗ 2. Isaac Newton
	✓ 3. Michael Faraday
	✗ 4. Nikola Tesla

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Q.71	Rakesh starts from Point A and drives 21 km towards the west. He then takes a left turn, drives 23 km, turns left and drives 27 km. He then takes a left turn and drives 28 km. He takes a final left turn, drives 6 km and stops at Point P. How far (shortest distance) and towards which direction should he drive in order to reach Point A again? (All turns are 90° turns only unless specified.)
Ans	✗ 1. 4 km to the south
	✓ 2. 5 km to the south
	✗ 3. 3 km to the south
	✗ 4. 2 km to the south

Q.72	A man sold an article for ₹481 by first giving a d% discount on its marked price, and then another discount having the same nominal value (in ₹). If the marked price of the article is ₹1924, then what is the value of d?
Ans	✗ 1. 32
	✗ 2. 33
	✗ 3. 42.5
	✓ 4. 37.5

Q.73	By selling an article at $\frac{2}{5}$ of its actual selling price, Ramesh incurs a lo
Ans	✗ 1. 83.4%
	✗ 2. 81.8%
	✓ 3. 80.6%
	✗ 4. 82.6%

Q.74	Two sets of numbers are given below. In each set of numbers, certain mathematical operation(s) on the first number results in the second number. Similarly, certain mathematical operation(s) on the second number results in the third number and so on. Which of the given options follows the same set of operations as in the given sets? (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g. 13 – Operations on 13 such as adding/subtracting/multiplying to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.) 4 - 8 - 16 - 32; 1 - 2 - 4 - 8
Ans	✓ 1. 5 - 10 - 20 - 40
	✗ 2. 12 - 24 - 28 - 56
	✗ 3. 6 - 12 - 24 - 28
	✗ 4. 3 - 6 - 12 - 20

Q.75	Which of the following states has the highest density of railway network as of 2019-20?
Ans	✗ 1. West Bengal
	✗ 2. Punjab
	✗ 3. Odisha
	✓ 4. Uttar Pradesh

Q.76	The Pala King of Bengal, Dharamapala was defeated by which of the following Rashtrakuta kings?
Ans	✗ 1. Krishna I
	✗ 2. Indra III
	✗ 3. Govinda III
	✓ 4. Dhruva Dharavarsha

Black

Q.77	Refer to the following number, symbol series and answer the question. Counting to be done from left to right only. (Left) * 5 2 # # 2 2 7 & % 2 $ & 1 3 $ % $ 5 4 $ $ (Right) How many such numbers are there each of which is immediately preceded by a number and also immediately followed by a number?
Ans	✗ 1. 3
	✗ 2. 0
	✓ 3. 1
	✗ 4. 2

Q.78	If 1 is added to each odd digit and 2 is subtracted from each even digit in the number 1534876, what will be the sum of the digits which are third from the left and third from the right?
Ans	✓ 1. 10
	✗ 2. 14
	✗ 3. 6
	✗ 4. 8

Q.79	Select the letter-cluster pair that best represents a similar relationship to the one expressed in the pairs of letter-clusters given below. UQY : WUV MDW : OHT
Ans	✗ 1. LHR : NKO
	✗ 2. NUM : PYK
	✓ 3. SOU : USR
	✗ 4. WTQ : YXO

Q.80	The Indigo Rebellion took place in _____ during 1859-1860.
Ans	✗ 1. Punjab
	✗ 2. Madras
	✗ 3. Bombay
	✓ 4. Bengal

Q.81	The genetic constitution of a child getting an X bearing sperm from the father will be:
Ans	✗ 1. 46+XY
	✓ 2. 44+XX
	✗ 3. 46+XX
	✗ 4. 44+XY

Q.82	AC is a chord of a circle. If X and Y are the two points, on the circun such that $\angle AXC = 58°$, then what is the measure of $2\angle AYC$?
Ans	✓ 1. 116°
	✗ 2. 60°
	✗ 3. 58°
	✗ 4. 120°

Black book

Q.83	The chemical name for 'Plaster of Paris' is:
Ans	✗ 1. calcium sulphate dihydrate
	✓ 2. calcium sulphate hemihydrate
	✗ 3. calcium chloride hexahydrate
	✗ 4. calcium chloride semihydrate

Q.84	Which of the following is a safety device used to prevent excessive current from flowing in electrical circuits?
Ans	✗ 1. Capacitor
	✗ 2. Resistor
	✓ 3. Fuse
	✗ 4. Transformer

Q.85	Fleming's Left-Hand Rule is used to determine _____.
Ans	✗ 1. the magnitude of the force on a current-carrying conductor
	✗ 2. the amount of current flowing through the conductor
	✓ 3. the direction of force on a current-carrying conductor
	✗ 4. the strength of the magnetic field

Q.86	An electric fan becomes warm if used continuously for longer time. This happens due to:
Ans	✓ 1. heating effect of the current flowing through the fan
	✗ 2. the slow rotation of the fan
	✗ 3. the high temperature during the summer
	✗ 4. the fast rotation of the fan

Q.87	Who among the following was appointed as the Union Minister of Panchayati Raj in June 2024?
Ans	✗ 1. Shivraj Singh Chouhan
	✓ 2. Rajiv Ranjan Singh
	✗ 3. Piyush Goyal
	✗ 4. Jagat Prakash Nadda

Q.88	Ram takes 2 hours more than Ravi to walk 20 km. If Ram doubles his speed, then he is ahead of Ravi by one hour 20 minutes. Find the speed of Ravi (in km/hr).
Ans	✗ 1. $3\frac{2}{7}$
	✗ 2. 4
	✗ 3. 3
	✓ 4. $4\frac{2}{7}$

Q.89	Tarun ranked 21st from the top and 12th from the bottom in his class. How many students are there in his class?
Ans	✗ 1. 31
	✓ 2. 32
	✗ 3. 33
	✗ 4. 34

Q.90	Find the value of $0.\overline{36} + 0.\overline{723}$.
Ans	✗ 1. $1\frac{26}{33}$
	✗ 2. $1\frac{41}{495}$
	✗ 3. $1\frac{31}{330}$
	✓ 4. $1\frac{89}{990}$

Q.91	**Below are given two sets of numbers. In each set of numbers, a certain mathematical operation on first number results in the second number. Similarly, certain mathematical operation on second number results in the third number and so on. Which of the given options follows the same set of operations as in question?** **(NOTE – A two/three digit number cannot be broken into individual digits for operations e.g. if 37 is followed by 10, the operation cannot be 3+7 as a two digit number cannot be broken into individual digits)** **2 – 14 – 44 – 88 ; 5 – 35 – 65 – 130**
Ans	✓ 1. 7 – 49 – 79 – 158
	✗ 2. 11 – 121 – 152 – 162
	✗ 3. 13 – 39 – 122 – 142
	✗ 4. 14 – 64 – 94 – 144

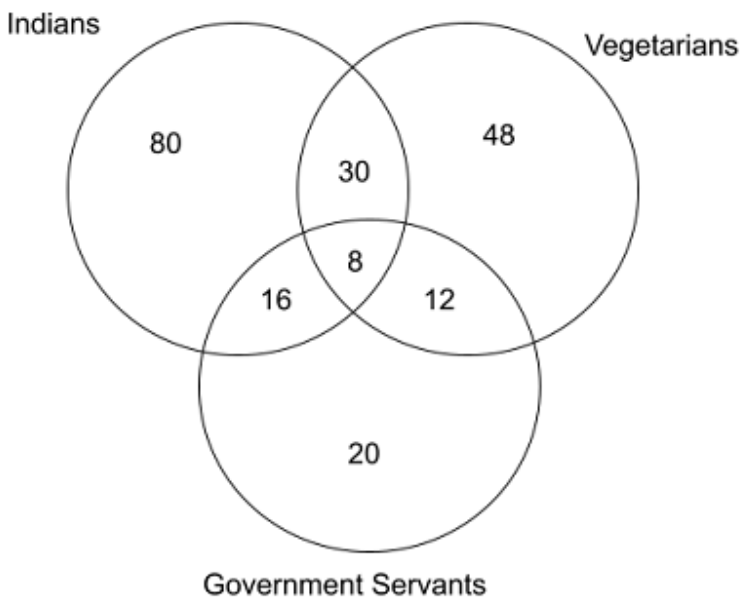
Q.92	**What is the term for the band of colours produced when light is dispersed?**
Ans	✗ 1. Reflection
	✗ 2. Refraction
	✓ 3. Spectrum
	✗ 4. Absorption

Q.93	**A number when increased by 50 %', gives 2970. The number is:**
Ans	✓ 1. 1980
	✗ 2. 3960
	✗ 3. 5940
	✗ 4. 990

Q.94	**An object is placed at 30 cm from a convex mirror with a focal length of 15 cm. Calculate the image distance (v) using the mirror formula.**
Ans	✗ 1. −10 cm
	✓ 2. 10 cm
	✗ 3. 15 cm
	✗ 4. −15 cm

Q.95	**The reactants that are used for the production of bleaching powder are:**
Ans	✗ 1. $CaO + Cl_2$
	✗ 2. $CaOH + Cl_2$
	✓ 3. $Ca(OH)_2 + Cl_2$
	✗ 4. CaO + Cl

Black

Q.96	Study the given diagram carefully and answer the question that follows. The numbers in different sections indicate the number of persons.  How many such government servants are there who are Indians but not vegetarians?
Ans	✗ 1. 12
	✓ 2. 16
	✗ 3. 30
	✗ 4. 8

Q.97	The average price of three items of furniture is Rs 16860. If their prices are in the ratio 3:5:7, the price of the cheapest item (in Rs) is
Ans	✗ 1. 5620
	✗ 2. 3372
	✓ 3. 10116
	✗ 4. 7868

Q.98	A question is given, followed by two statements labelled I and II. Identify which of the statements is/are sufficient to answer the question. A, B, C, D and E are sitting in a straight line facing North. Who sits on the extreme right end? (I) Exactly three people sit between B and C. (II) A sits immediately to the left of B.
Ans	✗ 1. Both Statements I and II put together are not sufficient to answer the question.
	✗ 2. Data in Statement II alone is sufficient to answer the question, while data in Statement I is not.
	✗ 3. Data in Statement I alone is sufficient to answer the question, while data in Statement II is not.
	✓ 4. Both Statements I and II put together (and not independently) are sufficient to answer the question.

Q.99	Based on the English alphabetical order, three of the following four letter-clusters are alike in a certain way and thus form a group. Which letter-cluster DOES NOT belong to that group? (Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)
Ans	✓ 1. RXAE
	✗ 2. NTWB
	✗ 3. AGJO
	✗ 4. SYBG

Black book

Q.100	What is the average of all the natural numbers from 1 to 94?
Ans	✗ 1. 48.5
	✓ 2. 47.5
	✗ 3. 48
	✗ 4. 47

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